DEGREE PROFILE OF

Diplom í web-menning

Diploma of Higher Education in Web Development

Updated 20-03-2023

TYPE OF DEGREE & LENGTH	Single degree 120 ECTS that can be completed with these options: - Part-time programme (50% study, 50% work in IT-industry) over 4 years. - Part-time programme (80% study, 20% work in IT-industry) over 2.5-years.
INSTITUTION(S)	Fróðskaparsetur Føroya, Náttúruvísindadeildin *University of the Faroe Islands (UFI), Faculty of Science and Technology.*
ACCREDITATION ORGANISATION(S)	Uttanríkis- og Mentamálaráðið (UMMR). *Ministry of Foreign Affairs and Culture.*
PERIOD OF REFERENCE	Valid from 2023
CYCLE /LEVEL	*First Cycle' according to QF-EHEA and 'level 6' according to the EQF-LLL*

A	PURPOSE
	To educate software developers to apply methods and tools from the field of computer science and software engineering to produce and maintain effective and dependable programs for organisations, commercial and public administrations, with a special focus on developing web applications.

B	CHARACTERISTICS

1	DISCIPLINE(S) / SUBJECT AREA(S)	The main disciplines are Computer Science (25%); Programming and Systems Development (31.25%); Web Technology (31.25%); Engineering economics and project management (12.5%): Computer Science (30 ECTS) Programming and Systems Development (37.5 ECTS) Web Technology (37.5 ECTS) Engineering economics and project management (15 ECTS)

2	GENERAL / SPECIALIST FOCUS	The general focus (45 ECTS) is on a foundation in Computer Science, Engineering Economics, and Project Management. The specialist focus (75 ECTS) is on Programming and Systems Development, and Web Technology. Through a series of courses in various programming languages and web technologies the students gradually develop their competences. From basic programming to objectoriented programming and ultimately to work with software projects and web development in industry.
3	ORIENTATION	Applied programme with introductory courses in computer science and with both introductory and advanced courses in programming and web development.
4	DISTINCTIVE FEATURES	This programme focuses on a close collaboration with specialists within the Faroese IT industry who teach some of the courses and guide students in computer exercises and projects. Approx. 6% (one course, 7.5 ECTS) of the programme is a remote study in collaboration with Mid Sweden University. Language of instruction is mainly Faroese and English. Study material is mostly in English, occasionally in Danish. Language of instruction during remote study is to some extent Swedish (assignments and course notes), whereas study material and communication is in English. The programme provides a clear path for further education to the bachelor's level (BSc in Software Engineering at the UFI). Students with the diploma degree, who also fulfil the admission criteria for the BSc programme, can finish the BSc programme by taking additional 37,5 ECTS of course work and writing a 22,5 ECTS bachelor's thesis, correspond to 1 year of full-time study. Conversely, the diploma degree can be offered to students enrolled in the BSc programme in Software Engineering that have not completed the BSc programme but fulfil the requirements of the diploma programme.

C	EMPLOYABILITY & FURTHER EDUCATION

1	EMPLOYABILITY	- IT development and programming. - IT operation and IT safety. - Web applications, games, ads, and apps. - Developing and operating educational IT tools. Web developers qualify to work with software development within telecommunication, banking and insurance, fishing industry, the public sector etc.
2	FURTHER STUDIES	A Diploma of Higher Education in Web Development (120 ECTS) is linked with the BSc in Software Engineering (180 ECTS) at UFI, but has less focus on theoretical and mathematical course work. It qualifies for an upgrade to the BSc in Software Engineering given that the required (Upper-secondary school) prerequisites in mathematics are fulfilled.

D	EDUCATION STYLE	
1	LEARNING & TEACHING APPROACHES	Teaching methods used are lectures, assignments and guidance in class and on-line, small exercises, a set of assignments, individual assignments to hand in – on occasion in groups. Moodle is used as communication platform and to some extent for the submission of assignments. The remote study (currently one course) is a collaboration with Mid Sweden University. The remote study is structured so that students may receive guidance for assignments etc. at the UFI.
2	ASSESSMENT METHODS	Exam methods for on-site courses are (a) written exam, (b) oral exam, (c) submissions and oral exams, and (d) submissions and written exams. Exam methods used for the remote courses are (a) submissions and project, (b) submissions, exam in theory, and project, or (c) submissions and written exam. These exams are taken on-line. Other forms of exams may be used on occasion.

E	PROGRAMME COMPETENCES
1	GENERIC

Analytical skills: ability to think in analytical and applied ways to come up with new ideas for e.g. innovation of new services or businesses.

Communication competences: ability to communicate about IT-solutions with professionals as well as nonprofessionals.

Research skills: capacity to take on problem solving projects below bachelor's level.

Language proficiency: ability to work in an English language environment and document code in English.

Individual and team-work skills: capacity to work independently and in groups and to take responsibility for tasks.

2	SUBJECT SPECIFIC
	Management competences: ability to design, plan, and organise time and resources in software development projects.
	Cooperative skills: ability to collaborate in teams of designers and developers in software development projects.
	Technological skills: capacity to learn and stay up-to-speed within software development.
	Computer skills: ability to analyse, model, design, programme, and execute IT programs.
	Problem-solving skills: capacity to identify and solve applied software problems and tasks.
	Project skills: ability to document and share information about progress while working with a project, to write a short project report, and to present the result of the project orally.

F	COMPLETE LIST OF PROGRAMME LEARNING OUTCOMES
	On completion of the programme the student is able to:

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- Demonstrate a broad knowledge in software development.
- Describe and apply computer technology and programs, data communications, cable- and Wi-Fi networks, the internet, web- and mobile applications, databases, IT-security, open-source Linux systems, and commercial IT systems.
- Identify the difference between various programming languages (e.g., Python, Java, and C#).
- Design and develop simple procedural programs and programming codes based on the Python language.
  • Design and develop software based on the object-oriented method and the Java language, design patterns, the UML-modelling language, and re-use programming code.
- Describe web servers and clients, web design and performance, apps, and online stores.
- Develop web applications based on either open-source script languages or commercial object-based systems, e.g., Microsoft ASP.NET Core with C#.
- Develop mobile applications e.g., simple apps for devices with the Android operating system.
- Describe basic and intermediate concepts in IT-security and do a risk analysis of various IT systems.
- Identify and apply basic concepts from engineering economics to make budgets and financial control.
- Investigate applied problems in the IT-industry to develop improved or new application programs and document the programming codes.
- Critically search, select, and use reliable and current knowledge from textbooks, from the internet or from other sources, and clearly cite all the sources used.
- Demonstrate competences in IT-projects, including both oral and written communication of the project results.