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# Description and Concept of Specific DHEMs of HEIs

## Recommendations to HEIs in Montenegro on how to implement DHE

Contact: Prof. Špiro Ivošević +382 67 628 985

Prof. Milena Dževerdanović – Pejović +382 69 381 530

Prof. Senka Šekularac – Ivošević + 382 67 816 841



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## **Abbreviations Viser:**

FoMSK: Faculty of Maritime Studies Kotor

FoE: Faculty of Economics

ECTS: European Credits Transfer System

DHEM Dual Higher Education Model

HEI Higher Education Institution



## Objectives

The “Description and Concept of the Specific DHEMs of HEIs” is a deliverable within WP 3 entitled “Pilot testing of the flexible and generic DHEM” of the DualEdu project.

This document describes the concept of specific DHEM developed by FoMSK and FoE, considering that the implementation of the dual higher education model at both faculties (according to their specific models) is based on the same principles and rules.

This document represents a basis for presentation of specific DHEM to companies.



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## **Introduction**

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This section provides a detailed description of the specific model that will be implemented at Faculty of Maritime Studies Kotor and the Faculty of Economics Podgorica.

Faculty of Maritime Studies Kotor, University of Montenegro (hereinafter referred to as: FoMSK) provides students with three-year undergraduate studies (180 ECTS), two-year master studies (120 ECTS), as well as doctoral studies (180 ECTS) for further education.

Students may enroll in one of four undergraduate study programmes: Nautical Science and Transport, Marine Engineering, Marine Electrical Engineering and Maritime Management and Logistics. At Master and doctoral level students can enrol two study programmes: Maritime Sciences and Maritime Management and Logistics.

Students may enroll in one of three levels of study programmes: Bachelor, Master and doctoral degree. The Faculty offers a wide range of courses, at all study programmes and at all of three levels of studies, allowing thus everyone the possibility of creating a tailored educational matrix in alignment with their interests.

The studies are divided into two semesters in each academic year with equal workload in both semesters, in accordance with the Bologna process. By passing all exams in a given semester, students obtain a total of 30 ECTS.

Having analysed the educational practice in leading European countries, we have designed a unique Dual Higher Education Model to match the studies at FoMSK with the real labour market demands.

At the Faculty of Economics, the starting point for defining a specific model comes from the accreditation of study programs, and knowledge and skills that are the focus of individual modules. According to the last accreditation from 2017, basic studies of economics at the Faculty of Economics are organized according to the 3 + 2 + 3 model, in order to harmonize studies with the way of studying at universities in the European Union, and to enable the implementation of the Bologna Declaration. In this way, compatibility with other universities in Europe has been achieved, and preconditions have been created for a better flow of students to European universities. At the same time, this contributed to leverage the international recognition of the Faculty of Economics, and the University of Montenegro at the same time.

At the level of undergraduate studies, the students can enrol in one of two possible modules: Microeconomics or Macroeconomics. Students choose one of two models at the third year of undergraduate studies. According to the developed specific model, DHEM was implemented on the module Microeconomics.



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## 1. Implementation of the Dual Higher Education Model at the Faculty of Maritime Studies Kotor

DHEM may be accredited as a separate study programme or as one of the modules within a study programme. In the process of accreditation of the existing study programme Marine Engineering (Bachelor studies), the stage was set for the introduction of DHEM. It was thereby planned that students, over the course of their three-year studies, should go through practical forms of learning by being directly hired by an employer with whom FoMSK has an Agreement on Business and Technical Cooperation.

Learning through apprenticeship in this study programme is implemented in the following working, teaching and learning time. According to the selected sequential model, the working hours of a dual student are scheduled after gaining the theoretical knowledge planned by all courses within study module *Inspection of Marine Engineering System*. More precisely, the first semester and a half of the second semester of the 3rd year is intended for learning at HEI, while the second part of the second semester is intended for practical work at a company. This model also includes certain amount of time for individual learning of dual student, which is scheduled during the examination periods in January/February and June. The timetable of time intended for working, teaching and individual learning for this sequential model is as follows:

- **Working time** – every day with 8h/day for 4 weeks during May in the second semester of the 3rd year of a study, and every day with 4h/day for 4 weeks in June.
- **Teaching time** – every day with 6h/day during the first semester and during the three months of the second semester of the 3rd year (i.e. in February, March and April)
- **Learning time** – during the teaching period (first semester and three months of the second semester) every day with 2h/day; also every day with 8h/day for 6 weeks during the examination period in January and first two weeks of February, as well as every day with 4h/day during the examination period in June.

In this way, over the course of their studies, students obtain 180 ECTS, with four courses in the sixth semester totaling to 24 ECTS of which are obtained in the process of work-based learning.

Bachelor studies at FoMSK are adapted to work-related obligations of students.

In this way, students have the conditions of organising practical forms of work-based learning.

Tables 1 and 2 show the list of courses studied at bachelor studies, the number of lectures and practical classes, as well as the corresponding number of ECTS for each of them.

Tables 3 show the list of courses studied at bachelor studies which are part of dual education program, the number of lectures and practical classes, as well as the corresponding number of ECTS for each of them.

The Table 4 present the timetable of time intended for working, teaching and individual learning for this sequential model is as follows.



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Table 1. Course structure in the first two years of studies

Study year: <b>I</b>											
Subject	L	E	P	ECTS	L	E	P	ECTS	Exam method	O	EL
1. TECHNICAL MECHANICS	3	3	0	<b>7.00</b>					Written		
2. MATHEMATICS I	2	2	0	<b>5.00</b>					Written		
3. BASICS OF MARINE ELECTROTECHN. AND ELECTRONICS I	2	1	1	<b>5.00</b>					Written		
4. TECHNOLOGY OF MATERIALS	2	1	1	<b>4.00</b>					Written		
5. MARITIME LAW	2	0	0	<b>3.00</b>					Written		
6. MARINE ENGINEERING DRAWINGS	1	0	2	<b>3.00</b>					Written		
7. ENGLISH LANGUAGE I	2	1	0	<b>3.00</b>					Written		
8. THERMODYNAMICS AND HEAT TRANSFER					3	2	0	<b>6.00</b>	Written		
9. MATHEMATICS II					2	2	0	<b>5.00</b>	Written		
10. BASICS OF MARINE ELECTROTECHN. AND ELECTRONICS II					2	1	1	<b>5.00</b>	Written		
11. SHIP KNOWLEDGE					2	2	0	<b>5.00</b>	Written		
12. OILS, FUEL OILS AND WATER					2	0	1	<b>3.00</b>	Written		
13. ENGLISH LANGUAGE II					2	1	0	<b>3.00</b>	Written		
14. MACHINE ELEMENTS					2	1	0	<b>3.00</b>	Written		
<b>Total:</b>	<b>14</b>	<b>8</b>	<b>4</b>	<b>30.00</b>	<b>15</b>	<b>9</b>	<b>2</b>	<b>30.00</b>			

Study year: <b>II</b>											
Subject	L	E	P	ECTS	L	E	P	ECTS	Exam method	O	EL
1. MARINE AUXILIARY ENGINES	3	0	1	<b>6.00</b>					Written		
2. MARINE STEAM BOILERS	2	1	1	<b>5.00</b>					Written		
3. MARINE ENGINES I	2	1	1	<b>5.00</b>					Written		
4. CONSTRUCTION AND SHIP'S STABILITY	2	2	0	<b>5.00</b>					Written		
5. MARINE ELECTRICAL SUBSTATIONS	2	1	1	<b>4.00</b>					Written		
6. ENGLISH LANGUAGE III	2	1	0	<b>3.00</b>					Written		
7. SAFETY AT SEA	1	0	1	<b>2.00</b>					Written		
8. MARINE ENGINES II					2	1	2	<b>5.00</b>	Written		
9. MARINE STEAM AND GAS TURBINES					2	1	1	<b>5.00</b>	Written		
10. MARINE AUXILIARY MACHINERY					3	0	1	<b>5.00</b>	Written		
11. MARINE ELECTRIC DEVICES					2	1	1	<b>5.00</b>	Written		
12. SHIP'S MEASUREMENTS					2	0	2	<b>4.00</b>	Written		
13. ENGLISH LANGUAGE IV					2	1	0	<b>3.00</b>	Written		
14. PHYSICAL EDUCATION I					1	0	2	<b>3.00</b>	Written		
<b>Total:</b>	<b>14</b>	<b>6</b>	<b>5</b>	<b>30.00</b>	<b>14</b>	<b>4</b>	<b>9</b>	<b>30.00</b>			



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Table 2. Course structure in the V semester of third year

Study year: III												
Subject	L	E	P	ECTS	L	E	P	ECTS	Exam method	O	EL	
1. MARINE AUTOMATICS	3	1	1	<b>6.00</b>					Written			
2. PREPARATION AND POWER PLANT MANAGEMENT	2	0	1	<b>5.00</b>					Written			
3. SHIP MAINTENANCE MANAGEMENT	2	2	0	<b>5.00</b>					Written			
4. MARINE AND COASTAL ENVIRONMENTAL PROTECTION	2	1	1	<b>4.00</b>					Written			
5. SIMULATOR AND NAVIGATION EXERCISES	0	0	3	<b>4.00</b>					Written			
6. Marine insurance	3	2	0	<b>6.00</b>					Written		x	
7. Maritime market research	3	2	0	<b>6.00</b>					Written		x	
8. ECONOMY OF SHIP EXPLOITATION					2	2	0	<b>6.00</b>	Written			
9. Intermodal transport systems					3	1	0	<b>6.00</b>	Written		x	
10. Internet technologies and electronic business					3	0	1	<b>6.00</b>	Written		x	
11. Electromagnetic compatibility of marine equipment					2	0	1	<b>6.00</b>	Written		x	
12. Multimedia systems in maritime communications					3	1	0	<b>6.00</b>	Written		x	
13. Mathematical modelling in transport					2	2	0	<b>6.00</b>	Written		x	
14. Maritime transport logistics and automatization					2	1	0	<b>6.00</b>	Written		x	
15. Operational researches					3	1	0	<b>6.00</b>	Written		x	
16. Ports and terminals					2	2	0	<b>6.00</b>	Written		x	
<b>Total:</b>	<b>15</b>	<b>8</b>	<b>6</b>	<b>36.00</b>	<b>22</b>	<b>10</b>	<b>2</b>	<b>54.00</b>				

Table 3. Course structure in the VI semester of third year

Study year:: III												
Subject	L	E	P	ECTS	L	E	P	ECTS	Exam method	O	EL	
1. ORGANIZATION OF WORK AND SHIPBOARD MANAGEMENT					2	1	0	<b>6.00</b>	Written practical			
2. MARITIME SAFETY AND RISK MANAGEMENT					2	2	0	<b>6.00</b>	Written practical			
3. TECHNICAL SURVEY AND CLASSIFICATION					2	2	0	<b>6.00</b>	Written practical			
4. ECONOMY OF SHIP EXPLOITATION					2	2	0	<b>6.00</b>	Written practical			

Table 4. Total hours spend during the third year of stading

Time	V semester	VI Semester
Working		240
Teaching	480	360
Learning	320	200

The recommended solution provides students with an opportunity to, during their three-year studies, learn by working at the employer's and being hired for a total of 240 hours during the sixth semester.



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The previous table shows that students will spend approximately 2/3 of their time at the faculty within the third year of study, VI semester, acquiring theoretical knowledge. The reason for this decision stems from the fact that by then (during the previous two years and the first semester of third year of study) students have already gained all necessary theoretical knowledge needed for their successful integration into working processes within a company. This is one of the most important prerequisites that must be met in order for students to properly understand business processes in the company

Classes are realised in a time period of no more than 15 weeks per semester.

For the purpose of realising Internship, a student, as agreed with the course teacher, may receive a request for the realisation of Internship at the company with which FoMSK has an agreement on business and technical cooperation. The agreement stipulates that the employer must designate a mentor from the organisation who monitors the work of the student and verifies the internship journal as successfully finalized, bearing in mind the objectives and outcomes of the course. When taking the exam Internship, the student evaluates, with the course teacher, whether the conditions have been met for the realisation of working practice with the internship employer and is guided towards choosing a mentor at FoMSK as well as a narrower field of expertise for the student's working practice. The student and teacher decide whether the realisation of working practice would make an academic contribution at this level of studies (in terms of practical knowledge, creativity, and practical applicability for the employer). It is also evaluated to what extent the student is capable of realising his/her working practice (based on the student's ability to be a part of working team in company, based on the acquired theoretical and practical knowledge related to the student's bachelor study programme, and the ability to professionally interpret and present practical results).

If an employer has no employee(s) who meet the legal conditions to be a mentor at the organisation (i.e. someone who has a bachelor degree in accordance with the Bologna process), the employer may hire a person from another organisation who meets the conditions and has the necessary knowledge for a successful realisation of practical work in a field of expertise related to the study programme at FoMSK. The employer files a decision designating a mentor from the organisation for the realisation of practical work. FoMSK signs an agreement with the mentor designated by the employer, confirming therein that the practical work in company has been realised at the employer's, that it is applicable and that its content is appropriate.

Practical work of students in the company will be evaluated as part of the final exam, or as the whole final exam, depending on the decisions of individual professor at the module Inspection of Marine Engineering System. Practical work of student is connected with specific thematic areas because the subjects covered by the Module Inspection of Marine Engineering System are organized so that each of them can be linked to a specific department in the company. Hence, the expected knowledge that a dual student should acquire during his/her internship will depend predominantly on the subject to which he/she is related and the sector in the company in which he/she was deployed, so there will be certain differences in the expected outcomes between different dual students. A precise definition of learning outcomes will be the responsibility of the subject professors. In this regard, depending on the sector in which dual students are involved, some general expected learning outcomes may be: Analyse the possible ways of risk reduction; Consider the existing safety systems at sea, and manage the



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risks in maritime operations; Understand the importance and role of standards in risk management; Identify specific dangerous situations as dangerous on board (eg, stress, alcohol, workload, distinct authority, etc.) and analyze the characteristics of seafarers (attitude, hard work, authoritativeness, positive initiative), Describe the basics of ship crew organization and planning activities and exercises on board, Analyze cultural differences of multinational crews, and with this in mind optimally organize the crew; Define the cost's division and structure of the different categories of costs in the shipping industry, with particular reference to the costs of exploitation marine engineering complex; Distinguish the concepts of efficient (commercial, technical and human resources) management of ships and others.

All the recommended solutions in the practical work are tested at the organisation, while all documentation remains at the employer's. The student, in his/her practical work, presents results of work and describes his/her methodological approach, not disclosing any details which may be considered as a business secret. Mentor from the organisation confirms the validity of the analysis, while taking care of organisation's interests. The mentor from HEI makes sure that all practical and theoretical working results are at a certain academic level and meet the criteria of FoMSK.

At the end of work in company his/her practical work has been approved by his/her teacher mentor. The student, in his/her practice work in company, carries out practical tasks and writes a report on it in the form of a project paper or presentation. After successful presentation of practical and theoretical knowledge in specific subject which are the part of dual education model, student passing the final exam.

## **2. Implementation of the Dual Higher Education Model at the Faculty of Economics**

Starting from the goals of the project and the way of organizing the studies, in cooperation with the partners, it is decided to implement dual education in the final year of basic academic studies in Economics. Specifically, the pilot project is implemented in the Microeconomics module on within the last (VI) semester of study. The reasons for making such a decision are multiple. First of all, the Microeconomics module is predominantly focused on the economic sector, incorporating theoretical knowledge from all crucial functional units of the company (such as finance, accounting, marketing, management, etc.). In other words, this model covers a wide range of areas in the field of Economy, which is in line with the needs of business partners. In this way, students are directed to acquire specific knowledge and skills through dual education, which are especially valued by potential employers, and which are important for their competitiveness in the labour market. In addition, the Microeconomics module is represented in the last semester of basic academic studies, which ensures that the project includes those students who have already acquired theoretical knowledge, necessary to successfully adapt to the work environment within the company and solve real business problems and challenges. In this way, students can apply the acquired theoretical knowledge and upgrade it with practical skills gained through the process of dual education. Finally, this opens the possibility for companies, after completing the dual program (education) and academic studies, to offer employment to students, which opens the possibility to develop professional staff that is tailored to the specific needs of the company.






The project will be realized at the Faculty of Economics by applying the third sequential model defined by the generic model. According to the selected sequential model, working hours of dual student are scheduled after gaining the theoretical knowledge planned by all courses within study module Microeconomics. More precisely, the first semester and a half of the second semester of 3rd year is intended for learning at HEI, while the second part of the second semester is intended for working in a company. This model also includes certain amount of time for individual learning of dual student, which is scheduled during the examination periods in January/February and June. Schedule of time intended for working, teaching and individual learning for this sequential model is as follows (table 5):

- **Working time** – every day with 8h/day for 4 weeks during May in the second semester of the 3rd year of a study, and every day with 4h/day for 2 weeks in June.
- **Teaching time** – every day with 6h/day during the three months of the second semester of the 3rd year (i.e. in last two weeks of February, and all weeks in March and April)
- **Learning time** – during the teaching period (three months of the second semester) each day with 2h/day, each day with 4h/day during the first two weeks in June and 8/day in the last two weeks of June i.e. during the examination period.

Table 5: Teaching, learning and working time schedule in VI semester

Legend:

	11 W	4 W	2 W	2 W	Teaching	Learning	Working
H/week	30	20	20	20	330	40	120
H/week	10	20	20	20		190	80
Sum:					330	230	200

	Teaching h
	Learning h
	Working h

The previous table shows that students will spend approximately 1/3 of their time at the faculty within the third year of study, acquiring theoretical knowledge. The reason for this decision stems from the fact that by then (during the previous two years and the first semester of third year of study) students have already gained all necessary theoretical knowledge needed for their successful integration into working processes within a company. This is one of the most important prerequisites that must be met in order for students to properly understand business processes in the company. Percentage shares of total teaching, learning and working hours are given below in the table 6.

Table 6: Percentage share of total teaching, learning and working hours in VI semester

Activities	Total h	%
Teaching	330	43.42%
Learning	230	30.26%
Working	200	26.32%
SUM	760	100.00%

Practical work of students in the company will be evaluated as part of the final exam, or as the whole final exam, depending on the decisions of individual professor at the module Microeconomics. This module involves six subjects, which are presented below in the Table 7.

Table 7: Subject included in the module Microeconomics

Subjects	Number of classes	ECTS
Financial Management	3+2+0	6
Economic-Mathematical Methods and Models	3+2+0	6
Entrepreneurship	3+2+0	6
Business Information Systems	3+2+0	6
Human Resources Management	2+0+0	3
Trade management	2+0+0	3

The selection of students who will be included in the dual education program will be conducted by selecting 5 students for each subject who stand out according to the achieved results, rated based on pre-defined criteria (which will be discussed in the next part of the document). This is important to point out, because the subjects covered by the Microeconomics module are organized so that each of them can be linked to a specific department in the company. Having in mind the specificities of different departments within the company, and the specificities of work tasks that employees solve in individual departments, it is important to emphasize that the expected learning outcomes of dual students will be defined depending on the company sector in which he/she will work. The choice of sector in the company within which the student will be engaged, as well as the expected learning outcomes will depend on the content and goals of the subject to which the dual student was linked during the selection process. Hence, the expected knowledge that a dual student should acquire during his/her internship will depend predominantly on the subject to which he/she is related and the sector in the company in which he/she was deployed, so there will be certain differences in the expected outcomes between different dual students. Precise definition of learning outcomes will be the responsibility of the subject professors. In this regard, depending on the sector in which dual students are involved, some general expected learning outcomes may be:

- Making business decisions, based on indicators of financial analysis; assessment of the financial position of the company; acquisition of practical knowledge required for the evaluation of investment projects; preparation of planned financial reports.
- Understanding and practical application of entrepreneurial strategies; use of practical tools to conduct comprehensive market research; development of practical skills needed for realistic assessment and use of innovative opportunities in order to launch and develop business.
- Understanding and application of methods and techniques related to planning, design, engineering, implementation and maintenance of information systems; making specifications of user requirements regarding business information systems; planning the development of information technology in accordance with the business plans of the company.
- Presentation and application of methods and models of quantitative analysis, which are used for decision making in economics; defining goal functions and constraining conditions in linear programming problems; analysis and interpretation of results obtained by applying linear programming.





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- Analysis and planning of the company's human resources needs; evaluation of employee performance; preparation and implementation of decisions made in the selection process of candidates; application of motivational factors in order to manage human resources more efficiently.
- Defining and implementing sales strategies based on better understanding of the specificities of target segments, in order to make sales decisions; acquiring practical skills to improve the sales processes based on understanding the specificities of different types of business activities.

Monitoring the progress of dual students during their internship will be the responsibility of both the professor and the mentor in the company. In order to more accurately evaluate the achieved outcomes, special attention will be paid to monitoring the development of students' ability to solve real business tasks and challenges within a defined time frame, both individually and as a team member. In this way, after the students' internship is completed, it will be possible to more realistically assess the potential contribution of this project in the process of harmonizing curricula with existing requirements of employers and the labour market. Obtained results could serve as a starting point for further development of the legal framework of dual higher education.

### **3. Legal Conditions for the Realisation of DHEM**

The Dualmon project began to be implemented on January 15, 2021. In February 2021, the Working Group for Amendments to the Law on Higher Education was formed. <https://www.gov.me/cyr/clanak/obrazovana-radna-grupa-za-izmjene-zakona-o-visokom-obrazovanju>. In the course of 2021, the working group prepared amendments to the aforementioned Act.

In the coordination and continuous communication of representatives of the Faculty of Economics of UCG and other partners in the Dualmon project, representatives of the line ministry and the Working Group proposed that dual education be included in the draft text of the Law. In the finalized Draft Law (November 11, 2021), dual education was included in the text of the law, as a concept and through the text as an explanation. 04.12.2021. The Law on Higher Education was put up for public discussion <https://www.gov.me/dokumenta/36e45f2b-4c3c-4024-80ba-b14cea66aef4>. After the public debate, the Draft Law on Higher Education was supposed to be sent to the representatives of the European Commission for their opinion, and then, after receiving a positive opinion, to the parliamentary procedure.

Due to relatively frequent political changes, there is no official information on whether the text of the law was sent and when. 04.02.2022. the 42nd Government of Montenegro fell, and on April 28, 2022. the 43rd Government of Montenegro was voted. In the course of 2022, there were no officially published activities of the line ministry regarding changes to the Law on Higher Education. In the course of 2023, announcements were made that new amendments to the Law would be made and that a new Working Group would be formed. All of the above had the effect that dual education is still not recognized in Montenegrin legal legislation.



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### **3.1. Legal Conditions for the Realisation of DHEM at FoMSK**

Work-based learning is realised in its entirety with one, or more, employers, in compliance with the study programme and a plan for the realisation of work-based learning.

If work-based learning cannot be realised at the employer's in entirety, solely with the consent of FoMSK, one portion of that learning process can be realised at FoMSK or at the third party's premises (training centres, other legal entities who organise trainings, other employers, other higher education institutions and the like) with the material, technical and human resource conditions for the realisation of work-based learning.

The rights and obligations FoMSK employers, as well as FoMSK and third parties, are regulated by agreements. Students enroll in dual education study programmes by applying for one of them, in accordance with the Law on Higher Education.

The General Act of FoMSK defines the specific conditions for student enrollment in dual education study programmes, as well as transfer conditions for students who wish to transfer from a DHEM to other study models, and vice versa.

If more employers participate in the realisation of a DHEM, students apply for workbased learning at one of the offered, from a network of employers with whom FoMSK has an Agreement on Business and Technical Cooperation.

The distribution of students is managed via interviews during which the wishes of students are matched with the corresponding employers. Study programme, and the plan of realisation of work-based learning, further determine more specific conditions for the distribution of students to various employers.

FoMSK offers its support, promotes and monitors career development of its students, in compliance with the General Act of FoMSK as well as the standards of career management and counselling set in the law regulating the national framework of qualifications.

FoMSK supports career development of its students in DHEMs in the following manner: it monitors the level of motivation and satisfaction of both students and employers during work-based learning, it encourages and supports students to plan and set goals for career development, it helps students in the process of selecting their employers in cases when work-based learning is realised with several employers, so as to cater for their individual needs and work in their best interest.

Protection of students' rights is realised in the accordance with the law on higher education, the law regulating work safety and the law prohibiting work-related harassment, the law on social security benefits, the law on the protection of intellectual property.

In the process of realising work-based learning, all forms of discrimination are prohibited, as stipulated in the law on the prohibition of discrimination.

The conditions each employer must meet for the purpose of organising work-based learning are defined in the Law.





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### **3.1.1. Defining relations between employers and students, the employer and the institution of higher education**

Relations between FoMSK, employers and students in various study programmes, or modules, are regulated by agreements.

Relations between FoMSK and employers are regulated by an agreement on DHEM, while relations between employers and students are regulated by an agreement on work-based learning.

#### **3.1.1.1. Agreement on DHEM**

The form, content, signing, publishing, termination and the consequences of terminating an Agreement on Dual Higher Education Model are defined in compliance with the Law.

Agreement on Dual Higher Education Model is signed between FoMSK and an employer, in a written form, for a number of years which cannot be smaller than the number of years in a study programme.

Obligatory elements of such an agreement are:

- 1) Name, location and identification number of the employer;
- 2) Name and location of FoMSK;
- 3) Information about the study programme;
- 4) Obligation of the employer to organise work-based learning at their own expense;
- 5) Obligation of FoMSK with regard to the realisation of work-based learning;
- 6) Obligation of the employer with regard to the realisation of work-based learning;
- 7) Plan and programme for the realisation of work-based learning;
- 8) Place and time of the realisation of work-based learning;
- 9) Maximum number of students from FoMSK to be hired at the employer's for work-based learning;
- 10) Duration of the agreement;
- 11) Protection of intellectual property rights of employers and students;
- 12) Protection of personal information;
- 13) Reasons for expiration of termination of the agreement;
- 14) Manner of solving potential disputes;



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15) Date and signatures of both parties.

FoMSK seals an agreement on dual higher education model with one or more employers with the aim of providing conditions for the realisation of all contents of work-based learning defined in the study programme.

On selecting employers, FoMSK is obliged to work in the best interest of students. Employer can make agreements on DHEMs with multiple higher education institutions.

After making agreements on DHEMs with one or more employers, FoMSK informs the ministry in charge of higher education and the Chamber of Commerce of Montenegro about it in a time period of up to eight days after signing the agreement.

**When the law on dual education is passed,** FoMSK and the Chamber of Commerce of Montenegro, in a time period of up to 15 days after signing an agreement on DHEM, publish on their official webpage the main information about study programmes and other information relevant for work-based learning.

Employer may terminate an agreement on DHEM if:

- 1) FoMSK has its work licence taken away or revoked in accordance with the law;
- 2) FoMSK stops meeting the conditions set for the study programme in which the employer realises work-based learning;
- 3) FoMSK does not meet its obligations set in the agreement on DHEM;
- 4) Unanticipated technological, economic or organisational changes occur at the employer's, stopping, complicating or significantly altering thereby the realisation of professional activities.

FoMSK may terminate an agreement on DHEM if:

- 1) The employer does not meet the obligations set in the agreement on DHEM;
- 2) The employer violates the rights of students stipulated by law.

FoMSK is responsible for, without delay and no later than the following working day, informing the ministry in charge of higher education and the Chamber of Commerce of Montenegro about the termination of an agreement and the reasons for the termination of the given agreement on DHEM.

If an agreement on DHEM is terminated due to one of the following reasons:

- 1) FoMSK has its work licence taken away or revoked in accordance with the law;
- 2) FoMSK stops meeting the conditions set for the study programme in which the employer realises work-based learning;
- 3) FoMSK does not meet its obligations set in the agreement on DHEM; work-based learning is



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continued at another HEI determined by the Ministry.

If an agreement on DHEM is terminated due to unanticipated technological, economic or organisational changes that have occurred at the employer's, stopping, complicating or significantly altering thereby the realisation of professional activities, work-based learning is provided by FoMSK in cooperation with another employer with whom FoMSK has an agreement on DHEM.

If an agreement on DHEM is terminated due to the fact that the employer does not meet its obligations set in the agreement or has violated student rights stipulated by law, work-based learning is organised by HEI in cooperation with another employer with whom HEI has an agreement on DHEM.

### **3.1.1.2. Agreement on work-based learning**

The form, content, signing, termination and the consequences of terminating an Agreement on Work-Based Learning are defined in accordance with the law on dual education when it is adopted.

Agreement on work-based learning is made by an employer and a student in a written form.

Agreement on work-based learning is made after all students are distributed to employers with whom they will realise work-based learning, no later than five days prior to the start of work-based learning at the employer's.

Employer is responsible for keeping a registry of all signed agreements on work-based learning, in accordance with the law. Some of the mandatory elements of an agreement on work-based learning are:

- 1) Employer's identification data;
- 2) Student's name and last name, and his/her address;
- 3) Information about FoMSK;
- 4) Information about the study programme;
- 5) Employer's commitment to organise and realise work-based learning for the student in accordance with the study programme;
- 6) Confirmation from a health institution that the student meets all health-related conditions for work-based learning at the employer's, if such a confirmation is necessary, in accordance with the provisions on the protection of the youth stipulated by the law on work relations;
- 7) If a study programme is realised in a minority language, the employer is obliged to organise work-based learning in the language of that minority group;
- 8) Location and time of the realisation of work-based learning;



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- 9) Obligation of the student to regularly attend work-based learning at the employer's;
- 10) Obligations of the student with regard to the time spent at work, learning, work safety and health safety during the process of work-based learning;
- 11) Material compensation of the student;
- 12) Financial compensation of the student;
- 13) Protection of employer's intellectual property right as well as student's intellectual property rights, for the results obtained in work-based learning;
- 14) Protection of personal information;
- 15) Confidentiality of employer's business secrets;
- 16) Duration of the agreement;
- 17) Reasons for expiration or termination of the agreement;
- 18) Compensation in case of dismissal, unless the employer is not responsible for the dismissal;
- 19) Manner of solving potential disputes;
- 20) Date and signatures of both parties.

An integral part of an agreement on work-based learning is a plan of realisation of workbased learning.

Students may sign agreements on work-based learning with multiple employers with whom FoMSK has an agreement on DHEM, if it is necessary for the realisation of a study programme.

Conditions for termination of an agreement on behalf of a student or an employer, as well as the consequences of such termination, are defined with the law on dual education when it is adopted.

### **3.1.2. Registry of agreements**

The Registry of agreements on DHEMs is kept by the Chamber of Commerce, as a designated task.

The type of data put in the Registry of agreements on DHEMs, as well as the procedure of adding input in the Registry are defined in with the law on dual education when it is adopted.

### **3.1.3. Mentorship at the employer's**

Mentor at the employer's must have the competence to realise work-based learning defined in



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the general act of HEI.

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The manner of evaluating mentor's competence is determined in the general act of HEI.

Based on competence evaluation, HEI provides, if necessary, a guide for mentorship at the employer's or organises a training programme in compliance with the plan of realisation of the study programme with a DHEM.

#### **3.1.4. Grading and exams in DHEM**

Grading students in DHEM is defined in the general act of FoMSK. Content and manner of realising final work are determined in accordance with the study programme and the plan of realisation of DHEM.

#### **3.1.5. Material and financial compensation for students**

Students participating in work-based learning are provided with the following:

- 1) Tools and equipment for personal work safety;
- 2) Compensation for the real cost of transportation to and from work, up to the cost of tickets for public transportation, if the employer has not provided another form of transportation to and from work;
- 3) Compensation for meals in accordance with the general act of the employer;
- 4) Insurance for any case of injury at work at the employer's, if such insurance exists for all employees who work for that employer.

Employer may provide a student with the compensation for accommodation and food at the student dormitories. Students participating in work-based learning are entitled to financial compensation.

Compensation for work-based learning is paid once a month, no later than the end of the following month, for the previous month and for each hour spent at work, in a net value of at least 50% of a monthly salary of an employee working on the same or similar activities, in compliance with the law.

Compensation for work-based learning for students in undergraduate studies can be paid in different amounts, depending on the year of studies and student's level of knowledge, for each hour spent at work in a range of 30-70% of a monthly salary of an employee working on the same or similar activities, bearing in mind that the total compensation for work-based learning at a given level of studies must amount to 50% of a monthly salary of an employee paid for the same period. If an employer simultaneously covers the cost of tuition, they can reduce the amount paid for work-based learning by the amount given for tuition.



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### **3.1.6. Supervision and penalties**

Supervision in the realisation of DHEM, as well as penalties, are regulated in Articles.

## **3.2. Legal framework for the implementation of the dual education model at the Faculty of Economics**

As previously mentioned, the pilot project was implemented during the VI semester, in the academic studies of Economics, within the module Microeconomics. Having in mind the larger number of students attending this module, but also the limited number of project partners, it was necessary to define the criteria according to which the selection of those students who will have the opportunity to participate in the pilot program of dual education will be made.

The selection was done in such a way that several students were selected for each subject in the Microeconomics module. Students interested in participating in DHEM were selected and ranked on the basis of certain objective criteria. Some of these criteria were the results achieved by the student on the basis of colloquia, tests, or some other type of knowledge testing. In total, 17 students from Faculty of Economics participated in DHEM.

Having in mind that this is a pilot project, adjustment of the work plan by subjects was predominantly related to redefining the structure of student scoring, in a way that it includes work in the company. The number of points that a student could achieve on this basis was integral part of the final exam, and the maximum number of points that a student could achieve on this basis was defined by the subject professors. In the part of theoretical classes, during the pilot project, there were no significant changes, so dual students could follow the classes at the Faculty together with other students until May (i.e. until they were sent to work in the company).

### **3.2.1. Rights and obligations of participants (Faculty, companies and students) in the pilot project**

It is important to point out that the number of students who can do an internship within one company was not predefined, but that number depended on the company's capacity, i.e. its ability to provide students with adequate integration into work processes and assign a mentor to each of them, who will oversee their work. Given that the areas of work covered by the Microeconomics module are presented in every company, the activity of the project partner was not particularly important.

During the pilot project dual students had two mentors - an academic and a company mentor. Academic mentors were subject professors. The company with which the contract on the internship of the dual student is signed was also obliged to nominate mentors, who monitored the student's progress during an internship. The academic mentor gave consent to the engagement of the mentor by the employer, after reviewing his/her CV and, if necessary, conducting an interview. The academic mentor and the mentor from the company were obliged to make a learning plan for each student according to the model of dual education, no later than one month from the beginning of classes in the sixth semester. In addition to information about the employer and the



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company mentor, the learning plan contained the professional profile of the student, as well as learning outcomes that must be achieved through work within the employer.

In accordance with the defined model, the student was obliged to adhere to the schedule of internship. In other words, the student was required to work every day with 8h/day for 4 weeks during May in the second semester of the 3rd year of a study, and every day with 4h/day for 4 weeks in June.

The academic mentor and the mentor from the company were obliged to maintain continuous communication during the student's internship, in order to harmonize the student's learning and work and make it easier for him to write a report at the end of the internship. At the same time, it is important to emphasize that all the mentors in a companies had a higher degree of education than the degree of education of dual students, i.e. a minimum BsC in the field of economics (180 ECTS). The list of employers who meet the conditions for participation in the dual education program was selected based on the attached documentation that contained information regarding the following items defined by the HEI:

- List of activities of employers who can participate in the implementation of the working tasks covered by the selected study module.
- Specification of general obligations to be fulfilled by the employer in order to achieve learning through work on the study module (e.g. harmonization of work tasks within a specific employer with the program and subjects covered by HEI, occasional meetings of employer and academic mentor, HEI reporting on student work, way of presenting what has been learned, etc.).
- Competence of the mentor in terms of education (minimum 180 ECTS credits, etc.) and 2 years of work experience. The HEI should indicate how to check the competencies of the mentor with the employer (e.g. CV with professional achievements, interview with the teacher).
- A list of necessary equipment provided by the employer to the student.

The student were obliged to keep a diary of activities and to write a report at the end of the internship at the employer, in which he/she pointed out what learning outcomes he/she has mastered and in what way. Upon completion of the internship, a survey of students, employers and academic mentors was conducted, in order to obtain clear information on the quality of the dual model and its importance for all three parties, as well as information regarding eventual modification of dual education in the future.

### **3.2.2. Plan of the implementation of the curriculum by the employer**

Specific obligations, as well as the plan of realization of learning through work was defined by individual contracts that Faculty of Economics signed with the employer and a student, and in agreement with the academic mentor and the employer's mentor. The curriculum contained the framework of dynamics of mastering the desired learning outcomes. Students learned by working on projects that are implemented by employers, so this plan defined which projects can be applied by the employer and specified the stages in the implementation of the project in which the student participated. It was planned that the student study through work at the employer every day with 8 hours a day for 4 weeks in May, as well as 4 hours a day for 4 weeks in June. In this way the student spent approximately 200 working hours with the employer.



The workload of students participating in piloting dual education was: approximately 330 hours of active learning through teaching and 200 hours of learning through practice.

### **3.2.3. Financial aspects of student admission by employers**

During the piloting of the dual education program, the companies that sign the contract on participation in its realization and admission of students, were not obliged to pay compensation to students for the time spent in the company.

### **3.2.4. Verification of realized learning outcomes through internship**

Employers were required to issue a certificate to students upon completion of an internship program. The certificate contained the time that student spent working, a description of the jobs in which the student was engaged and the competencies that he/she acquired.

### **3.2.5. Change of the employer**

If it is determined that there are valid reasons for requesting a change of company within which the internship is performed, the student was allowed to do so. In that case, choosing a new company could be done in two ways. The first way is that the Faculty establishes cooperation with a new company, and the second is that the student proposes a potential company within which can complete the internship process. In both cases the final decision on the selection of a new company was supposed to be made by the Faculty, where the same (previously described) rules and conditions regarding the procedure of its selection were supposed to be applied. However, it is important to notice that during the piloting of DHEM at the Faculty of Economics there were no any requests for changing the company.