U N I V E R S I T Y O F S P L I T

FACULTY OF ELECTRICAL ENGINEERING, MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE

DETAILED PROPOSAL OF THE STUDY PROGRAMME

UNDERGRADUATE UNIVERSITY STUDY IN INDUSTRIAL ENGINEERING

SPLIT, July 2017

CONTENTS

GENERAL INFORMATION OF HIGHER EDUCATION INSTITUTION

Name of higher education institution	FACULTY OF ELECTRICAL ENGINEERING, MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE
Address	Ulica Ruđera Boškovića 32
Phone	021 305 777
Fax	021 305 776
E.mail	dekanat@fesb.hr
Internet address	htpp://www.fesb@hr

GENERAL INFORMATION OF THE STUDY PROGRAMME

Name of the study programme	INDUSTRIAL ENGINEERING		
Provider of the study programme	FACULTY OF ELECTRICAL ENGINEERING, MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE		
Other participants	FACULTY OF ECONOMICS IN SPLIT		
Type of study programme	Vocational study programme ☐	University study programme ☒	
Level of study programme	Undergraduate ☒	Graduate ☐	Integrated ☐
	Postgraduate ☐	Postgraduate specialist ☐	Graduate specialist ☐
Academic/vocational title earned at completion of study	University Bachelor of Industrial Engineering; univ. bacc. ing. industr.		

1. INTRODUCTION

1.1. Reasons for starting the study programme

Putting focus on the market, i.e. producing for a known buyer has become the most important factor for ensuring the existence of the company. In order to survive in the volatile global market, it is necessary for the company to continuously adapt to global trends: high quality products and services, short delivery time, price reductions and increased product and production complexity.

In order to meet the above mentioned requirements it is necessary to keep introducing experts who have new skills and knowledge, and to establish interdisciplinary engineering studies. Abandoning hierarchical, functionally oriented large enterprises resulted in larger demands for professionals with the following qualities: flexibility and creativity, motivation, cooperation and communication. In addition to the professional competences, the engineer of tomorrow should have methodical, computer and social skills.

The spectrum of study programmes at our universities, regarded from the point of view of the industrial sector, is oriented predominantly to specialist study programmes. Croatian faculties traditionally educate good professionals, who successfully solve problems within their professional subject field. However, there is a lack of experts who have the potential to effectively manage interdisciplinary tasks and projects. This type of expert, who would be the "integrator" and "problem solver", would have a vocational title of Bachelor of Industrial Management. The education would not focus only on the engineering and natural sciences, but it would also include courses in economic sciences. Therefore, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture and Faculty of Economics, University of Split would participate in the implementation of this study programme.

According to information given by the Technische Universität Berlin (www.tu-berlin.de), where this study programme is being held for 60 years, the main areas of activities of industrial management engineers are:

- company organization and design,
- systematic analysis and data processing,
- marketing and sales,
- logistics and economics of materials,
- finance and accounting,
- processing and production,
- research and development,
- personnel services,
- management (company management).

On the other hand, the services of the professionals trained in this area are necessary during the Croatian transition to the market economy. According to the information supplied by the German (www.vdi.de) and the American Society of

Mechanical Engineers (www.asme.com), engineers of industrial management are the most required and the most paid professionals in the industrial enterprises of these countries. Given the fact that this study programme is the only programme of this type at Croatian universities, graduated bachelors of industrial management will have great prospects for employment in the aforementioned areas, both in industrial and service companies in Croatia.

The study programme in Industrial Engineering was developed with the aim to enable students to acquire basic theoretical knowledge and practical expertise, and to train them for permanent knowledge acquisition, learning about new technologies and developing managerial skills. In addition, during the course of studies each student develops skills of creative thinking, independent and team work and ability to make business decisions at all levels of decision-making. The teaching process conforms with global and particularly with European trends in higher education and with the needs of the economy, and accordingly, appropriate curricula are created. The study programme in Industrial Engineering is closely related to current scientific achievements in the scientific area of engineering, field of mechanical engineering, and economic sciences. All necessary knowledge and skills are based on current scientific achievements within this area.

1.2. Relationship with the local community (economy, entrepreneurship, civil society, etc.)

One of the fundamental tasks of the Faculty is to provide education to young professionals who will use their knowledge, skills and abilities to become stakeholders in the industrial and general development of local and wider community. By training leading professionals for more than 55 years, the Faculty successfully accomplished its task, providing necessary human resources to participate in the development of industrial branches based on different engineering disciplines. The Faculty trained professionals who significantly contributed to economic development in the region, thus supporting the region to initiate and successfully develop high-tech based production activities with its own human resources potential.
The purpose of the study programme in Industrial Engineering has been confirmed by the number of students who successfully completed their studies and are employed in various sectors of economy. Following the completion of studies, the acquired knowledge enables the students to find employment in various sectors, e.g. processing, chemical or service industries. This is especially relevant in this moment, with social and economic changes driving the development of new, small and medium technologically advanced enterprises that could serve as the new driving force for economic development.

1.3. Compatibility with requirements of professional organizations

1.4. Name possible partners outside the higher education system that expressed interest in the study programme

FESB and Faculty of Economics are signatories to a number of cooperation agreements with the aim of promoting academic and educational activities, concluded with private enterprises and public organisations, e.g. Ericsson Nikola Tesla, national power company HEP, Split-Dalmatia County, Ministry of Defence, Energy institute “Hrvoje Požar”, Croatian academic and research network – CARNet, Brodosplit, Siemens, Microsoft Croatia, HSTec, Solvis, Adria Winch, Odašiljači i veze, Manas, etc. Also, it is important to note that the Croatian Armed Forces expressed a special interest in cooperation, since prospective officers are trained at the Faculty.

1.5. Financing

Funded by Ministry of Science and Education.

1.6. Comparability of the study programme with other accredited programmes in higher education institutions in the Republic of Croatia and EU countries

In Croatia, organised as a part of the undergraduate university study in Mechanical Engineering at the Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, there is a field of study titled Industrial Engineering and Management, which students may enrol after having completed the second semester. Considering that the study programme in Industrial Engineering, organized at FESB, is the only programme of this type in Croatia, the comparison is possible only with the similar study programmes in the world. However, it should be noted that it is not possible to simply copy similar study programmes, but to take into consideration during the process of curriculum development our specific features regarding the economic situation, anticipated development and the scientific advancements. On the other hand, the curriculum has to ensure the same level of quality offered by reputable foreign universities.

The German name for the study of Industrial Engineering is Wirtschaftsingenieurwesen Studium. The Universities from the following countries were selected as reference institutions: a group of universities from Germany (Universität Karlsruhe, Universität Stuttgart, Technische Universität Berlin, University of Aachen), Austria (Technische Universität Wien), USA (University of California at Berkeley, Stafford Business School), England (University of London, Imperial College of Science, Technology and Medicine) and Italy (Faculta di Economia e Comerco Venezia) and Slovenia (Faculty of Mechanical Engineering, Maribor).

1.7. Openness of the study programme to student mobility (horizontal, vertical in the Republic of Croatia, and international)

Undergraduate university study in Industrial Engineering supports the concept of student vertical and horizontal mobility. As far as vertical mobility is concerned, undergraduate university study in Industrial Engineering can primarily be followed by the graduate study programme in Industrial Engineering. For students who enrol this graduate programme after the undergraduate programme, these two cycles represent integral five-year educational programme which provides a comprehensive quality education in the professional field of Industrial Engineering. Furthermore, vertical mobility is possible towards other graduate study programmes after taking appropriate differential courses. As far as horizontal mobility is concerned, undergraduate university study in Industrial Engineering is open for mobility of students of related studies at all Croatian universities. The comparability of the study programme with similar study programmes enables the students to fulfil a part of their course requirements at other higher education institutions in Croatia or abroad.

1.8. Compatibility of the study programme with the University mission and the strategy of the proposer, as well as with the strategy statement of the network of higher education institutions

Undergraduate university study in Industrial Engineering conforms to the Strategy of the University of Split 2015-2020 (Mission, vision and strategic guidelines). In addition to mission and vision of the University of Split, in the process of defining strategic goals, the following strategic documents were taken into account as guidelines:

- EUROPA 2020 strategy for smart, sustainable and inclusive growth,
- Strategic documents of the European Research Area (ERA),
- Strategic documents of the European Higher Education Area (EHEA),
- Strategy of Education, Science and Technology of the Republic of Croatia.

Undergraduate university study in Industrial Engineering conforms to the development guidelines of the Faculty, as well as with mission, vision and strategic goals defined in the FESB Development Strategy for the period 2012 – 2016, and is the only programme of this type at the University of Split and the wider region.

The proposed study programme conforms to the strategic document Network of Higher Education Institutions and Study Programmes in the Republic of Croatia, which encourages launching new study programmes in STEM area, which includes the proposed study programme.

1.9. Current experiences in equivalent or similar study programmes

Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture and Faculty of Economics, University of Split participate in the implementation of the undergraduate study in Industrial Engineering.

FESB has extensive experience in delivering courses at similar programmes. As a response to growing demand for highly educated professionals in the fields of mechanical engineering and naval architecture, in 1960 the Centre for part-time studies was established in Split, as one of the constituent colleges of the Faculty of Mechanical Engineering and Naval Architecture in Zagreb. The Centre for part-time study in mechanical engineering was closed in 1965 and replaced by the Mechanical Technology Department, which was founded at the Faculty of Electrical Engineering in Split, providing the two first years of study in Mechanical Engineering. The study programme provided an opportunity for continuing the study programme in Zagreb after the fourth semester. Integration of the studies in electrical engineering, mechanical engineering and naval architecture in 1971 resulted in founding of the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture – FESB, constituent of the University of Split since 1974. The four-year undergraduate study in Mechanical Engineering, with its own curriculum, was finally completed in 1976. The Faculty has implemented professional studies (level VI in former qualifications system) since 1979 until today, with hiatus during the period 1998-2001. In collaboration with the Faculty of Mechanical Engineering and Naval Architecture in Zagreb the Faculty implemented the postgraduate study programme in mechanical engineering during the 1970s, with short interruptions. Permanent postgraduate study programme in Mechanical Engineering at FESB was established in 1998 and has been continually implemented since then. The undergraduate study programme in Industrial Engineering at FESB was first introduced in 2002. So far, 45 students have completed undergraduate study programme in Industrial Engineering and were awarded degrees of graduated engineers of Industrial Management.

In the end of 2004 activities regarding the Bologna process of harmonization of higher education systems in Europe were intensified. In 2005, within the Bologna Process, the Faculty introduced new study programmes at undergraduate and graduate levels, in accordance with the recommendations of the European accreditation agencies. Undergraduate study programme in Industrial Engineering and graduate study programme in Industrial Engineering were established with the following fields of study at the second year: Production Management and Product Lifecycle Management.

To the present day, 197 students were awarded degrees of Bachelor of Industrial Management and 105 students were awarded degrees of Master of Industrial Engineering.

Quality of education at FESB is confirmed by success and excellence of FESB graduates worldwide, including the highly developed countries. However, the most important is the fact that professionals trained at FESB represent a foundation of highly educated science and engineering labour force in the region. Faculty of Economics is the successor of organized study of economic sciences and of scientific research activities that are present in this region for the past 40 years. The original motives are associated with desires to provide education to economic experts in South Croatia thus enabling modern development. Due to the achieved level of development, the Faculty found its place among respectable educational and scientific institutions, not only in Croatian, but also in international circles.

Early developments of economic sciences in Split started back in 1960, when School of Economics was established. Scientific-research activities were intensified in 1965 with the founding of the Institute for the maritime, tourism and coastal economies. The need for increase in the number of educated graduated economists in 1971 encouraged the Faculty of Economics in Zagreb to establish its distant location study programme in Split. Due to rapid completion of personnel, organizational, physical and other conditions, after two years, the study programme grew into an independent university organization. In 1975 the above mentioned Institute integrated with the Faculty and in 1978 also the School of Economics, after breaking productive educational and scientific connections with Faculty of Foreign Trade in Zagreb. Since then, all three institutions act as a single one, educating professionals and offering two-year and four-year study programmes, developing scientific research ideas that have become particularly distinguished for research and development of ideas for advancement of the local economy in coastal areas.

2. DESCRIPTION OF THE STUDY PROGRAMME

2.1. General information

Scientific/artistic area of the study programme	Engineering Sciences
Duration of the study programme	3 years
The minimum number of ECTS required for completion of study	180
Enrolment requirements and admission procedure	Completed 4-year high school programme and state graduation exam. Rankings are formed based on the average grade point average achieved in high school and the state exam results in the fields of mathematics and physics. Students of related undergraduate studies may also be admitted, with at least 30 ECTS credit recognition.

2.2. Learning outcomes of the study programme (name 15-30 learning outcomes)

The learning outcomes of the study programme are directly related to the learning outcomes of an individual course and represent learning outcomes to be achieved by each student who completes the undergraduate university study programme in *Industrial Engineering*. The learning outcomes are aligned with the Croatian Qualification Framework Act.

KNOWLEDGE

1. Apply appropriate mathematical and scientific principles in solving complex problems in the fields of mechanical engineering and economics.
2. Apply fundamental physical and technical principles in the field of mechanical engineering.
3. Explain basic economic concepts, and concepts and functions of management.
4. Identify and apply microeconomic and macroeconomic models and basic accounting and financial principles.
5. Choose the appropriate analytical methods, modelling procedures and appropriate equipment in the analysis of systems, parts of the system or processes that will meet the relevant requirements in the context of technical, economic, social, ethical and legal limitations.
6. Integrate theoretical knowledge and practical skills in solving problems in the field of engineering.
7. Identify, formulate and solve engineering problems using established methods and procedures.
8. Recognise the possibilities and limitations of applied techniques and methods.

SKILLS

9. Apply techniques, skills and advanced engineering tools necessary in engineering practice.
10. Design experiments by applying scientific principles in the field of mechanical engineering and economics.
11. Conduct experiments and measurements; analyse and interpret collected data and measurement results.
12. Apply engineering knowledge and skills in order to effectively solve engineering problems, both independently and as part of a team.
13. Prepare project documentation and technical reports using modern technologies.
14. Create, develop and improve integrated systems that include people, materials, information, equipment and energy by using appropriate analytical, computer and experimental methods.
15. Use literature, databases and other sources of information.
16. Give a public oral presentation, prepare a written report and present the results of the project in Croatian and English language.

INDEPENDENCE

17. Actively participate in and manage projects in the field of mechanical engineering from the preparation stage to completion, using the appropriate knowledge in economics.
18. Continuously acquire knowledge on new techniques and technologies.

RESPONSIBILITY

19. Demonstrate awareness of the influences of engineering processes on the individual, society and environment.
20. Demonstrate professional and ethical responsibility in unforeseen conditions.
21. Demonstrate awareness on health, safety and legal issues related to the individuals and social groups.
22. Recognise the need for participating in life-long learning and acquiring the knowledge about new technologies.

2.3. Employment possibilities

Split is the economic and university hub of the major part of the Dalmatian region, as well as one part of the neighbouring region of Bosnia and Herzegovina. FESB is the only higher education institution in Croatia that delivers university study in Industrial Engineering as an independent study programme. Purpose of the study programme in Industrial Engineering has been confirmed by the number of students who successfully completed their studies and are employed in various sectors of economy. Following the completions of studies, the acquired knowledge enables the students to find employment in various sectors, e.g. processing, chemical or service industries. This is especially relevant in this moment, with social and economic changes driving the development of new, small and medium technologically advanced enterprises that could serve as the new driving force for economic development. Following the completion of studies, the students acquire an appropriate level of knowledge and skills that enable them to perform professional

tasks and provide them with skills necessary for participating in working processes in the field of engineering.

The special importance of this study programme, with regard to the labour market, is that it represents the first stage of the comprehensive two-cycle educational process which results in producing a fully educated expert capable of solving the most complex engineering tasks and participating in scientific research. The demand for experts with these learning outcomes considerably exceeds the available number of educated experts in the region, Croatia and the world.

2.4. Possibilities of continuing studies at a higher level

After completing undergraduate university study, students can enrol graduate study in Industrial Engineering or some other corresponding study programme in accordance with enrolment requirements of each graduate study programme.

2.5. Name lover level studies of the proposer or other institutions that qualify for admission to the proposed study

2.6. Structure of the study

The study programme is structured per semesters, lasting 6 semesters, two in each academic year. Each semester corresponds to 30 ECTS credits. During the first two years of the studies, the students acquire fundamental knowledge in mathematics and natural sciences and fundamental knowledge in mechanical engineering. In the final part of the studies, through expert courses, the completeness of the studies is achieved by preparing the students of the undergraduate university study programme in Industrial Engineering both for independent professional work and continuation of studies at the graduate level. In the third year of studies, in addition to mandatory courses, the students select two elective courses. The final component of the study programme is preparing and defending the final thesis. The conditions for enrolling a course are listed in the course table. Lectures are delivered in groups up to 100 students, auditory exercises and seminars in groups of 30 students, laboratory exercises in groups of 10 students and design exercises in groups of 6 students.

2.7. Guiding and tutoring through the study system

During the course of study programme activities, students have access to all the Faculty services. For the purpose of timely and effective communication, notifications and information are provided to students through the e-learning portal.

2.8. List of courses that the student can take in other study programmes

Students can enrol courses from other study programmes only as elective courses which are not included in the regular workload of 30 ECTS credits per semester.

2.9. List of courses offered in a foreign language as well (name which language)

Course tables for individual courses list the option of teaching a course in a foreign language.

2.10. Criteria and conditions for transferring the ECTS credits

Transfer or recognition of ECTS credits between related undergraduate university study programmes is allowed. The criteria and conditions for transferring the ECTS credits are regulated by the *Regulations on Studies and Study System at the University of Split*.

2.11. Completion of study

Final requirement for completion of study	Final thesis ☒ Diploma thesis ☐	Final exam ☐ Diploma exam ☐
Requirements for final/diploma thesis or final/diploma/exam	The requirement for applying for the final thesis is acquired 120 ECTS credits.	
Procedure of evaluation of final/diploma exam and evaluation and defence of final/diploma thesis	The final thesis is evaluated by the mentor (supervisor) and the defence of the final paper is conducted orally, in the presence of the mentor and students who also defend their paper with the same mentor.	

2.12. List of mandatory and elective courses

List of courses								
Year of study: 1.								
Semester: I.								
STATUS	CODE	COURSE	HOURS IN SEMESTER					ECTS
			L	S	AE	LE	DE	
Mandatory	FEME03	Mathematics 1	45	0	45	0	0	7
	FESE10	Mechanics 1	45	0	30	0	0	7
	FEMC01	Physics	45	0	0	0	0	5
	FESE11	Engineering Graphics 1	15	0	0	0	30	4
	FETE04	Materials 1	30	0	0	30	0	4
	FEOE02	English Language 1	0	30	0	0	0	3
	Total		180	30	75	30	30	30
	L = Lectures, S = Seminar, AE = Auditory Exercises, LE = Laboratory Exercises, DE = Design Exercises							
	There are no elective courses.							

List of courses								
Year of study: 1.								
Semester: II.								
STATUS	CODE	COURSE	HOURS IN SEMESTER					ECTS
			L	S	AE	LE	DE	
Mandatory	FEME04	Mathematics 2	45	0	45	0	0	7
	FESE08	Mechanics 2	45	0	45	0	0	7
	FEEE02	Principles of Economics	30	0	30	0	0	5
	FESE12	Engineering Graphics 2	30	0	0	0	30	4
	FETE05	Materials 2	30	0	0	30	0	4
	FEOE03	English Language 2	0	30	0	0	0	3
	Total		180	30	120	30	30	30
	L = Lectures, S = Seminar, AE = Auditory Exercises, LE = Laboratory Exercises, DE = Design Exercises							
	There are no elective courses.							

List of courses								
Year of study: 2.								
Semester: III.								
STATUS	CODE	COURSE	HOURS IN SEMESTER					ECTS
			L	S	AE	LE	DE	
Mandatory	FEEE03	Statistics	30	0	30	0	0	7
	FEEE05	Fundamentals of microeconomics	30	0	30	0	0	6
	FEEE04	Macroeconomics	30	0	30	0	0	6
	FETE01	Technology 1	45	0	0	30	0	6
	FEEE11	Computer Aided Design 1	30	0	0	0	30	5
	Total		165	0	90	30	30	30
	L = Lectures, S = Seminar, AE = Auditory Exercises, LE = Laboratory Exercises, DE = Design Exercises							
	There are no elective courses.							

List of courses								
Year of study: 2.								
Semester: IV.								
STATUS	CODE	COURSE	HOURS IN SEMESTER					ECTS
			L	S	AE	LE	DE	
Mandatory	FESE02	Mechanics of Materials	45	0	30	0	0	7
	FENE01	Electrical Engineering	30	0	15	15	0	6
	FEEE06	Accounting	30	0	30	0	0	6
	FETE02	Technology 2	45	0	0	30	0	6
	FESE17	Computer Aided Analysis	30	0	0	30	0	5
	Total		180	0	75	75	0	30
	L = Lectures, S = Seminar, AE = Auditory Exercises, LE = Laboratory Exercises, DE = Design Exercises							
	There are no elective courses.							

List of courses								
Year of study: 3.								
Semester: V.								
STATUS	CODE	COURSE	HOURS IN SEMESTER					ECTS
			L	S	AE	LE	DE	
Mandatory	FESE03	Machine Elements	45	0	0	0	30	6
	FESE05	Thermodynamics	45	0	30	0	0	6
	FESE04	Design of Industrial Products	30	0	0	0	30	5
	FEEE12	Management	30	0	30	0	0	5
	FETE03	Work and Time Study	30	0	15	15	0	4
	FESE06	Introduction to Information Systems	30	0	0	15	0	4
	Total		210	0	75	30	60	30
	L = Lectures, S = Seminar, AE = Auditory Exercises, LE = Laboratory Exercises, DE = Design Exercises							
	There are no elective courses.							

List of courses								
Year of study: 3.								
Semester: VI.								
STATUS	CODE	COURSE	HOURS IN SEMESTER					ECTS
			L	S	AE	LE	DE	
Mandatory	FESE0	Fluid Mechanics	45	0	30	15	0	6
	FEEE0	Finance	30	0	30	0	0	4
		Elective Course 1						
		Elective Course 2						
	FEXX0	Final Thesis						12
	Total		75	0	60	15	0	22
Elective	FETC1	Design for Manufacturing	30	0	0	0	30	4
	FESE1	Eksperimentalne metode u tehnici	30	0	0	30	0	4
	FETE12	Industrial Property	30	0	30	0	0	4
	FETE10	Ispitivanje materijala	30	0	0	30	0	4
	FESC2	Metal Structures Design	30	0	0	0	30	4
	FETE06	Moderne tehnologije obrade materijala	30	0	0	15	0	4
	FEEE0	Business Systems Organisation	30	0	30	0	0	4
	FEOC0	Introduction to Public Speaking	0	30	0	0	0	4
	FETE09	Tribology	30	0	30	0	0	4
	FEOC0	Communication Skills in English	0	30	0	0	0	4
	FESR1	Noise and Vibration Control	30	0	15	15	0	5
	FEXX0	Professional Training						5
	Two elective courses are chosen.							

2.13. Course description

NAME OF THE COURSE	ACCOUNTING						
Code	FEEE06	Year of study	2.				
Course teacher	Branka Ramljak, Ph. D., Full Professor	Credits (ECTS)	6				
Associate teachers	Ivana Perica, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	30	0	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION			
Course objectives	Training students for: - understanding and application of basic principles, standards and laws of accounting - setting up and solving simple accounting cases - permanent adoption and deepening of knowledge int he field of accounting		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - define the fundamental knowledge of accounting area - apply Law of Accounting for the evidence and recording of business transactions - calculate assets, owner's equity, liabilities, revenues and expenses - analyse financial statements and accounting information - analyse audit in the function of better business operation		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	The concept and content of accounting; The difference of accounting and bookkeeping	2	2
	The place and role of accounting in today's economic conditions	2	2
	Accounting principles; Users of accounting information	2	2
	Basic accounting categories: assets, owner's equity, liabilities, expenses,revenues and financial results	2	2
	Definition and division of assets, capital (owner's equiti) and liabilities; The role of assets, capital and liabilities in the business	2	2
	Definition and division of expenses, revenues, financial results; The role of expenses, revenues, financial results in the business	2	2
	Financial statements: definition and division	2	2
	International financial reporting standards/International accounting standards (IFRS/IAS)	2	2
	Preparing of the balance sheet for small, medium size and large company	2	2
	Preparing of the income statement for small, medium size and large company	2	2
	Preparing of the cash-flow statement for small, medium size and large company	2	2

	Business transactions;Recording oft he business transactions	2	2
	Account: definition and division; The rules for the recording	2	2
	Financial indicators of the analyse oft he financial statements; Liquidity, profitability, activity	2	2
	Value Added Tax; Real estate transfer tax; Profit tax	2	2

Format of instruction	x lectures ☐ seminars and workshops x exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	0.5	Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests	2.5	Oral exam		(Other)	
	Written exam	2.5	Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester there will be two tests to verify the theoretical and practical knowledge. Final exam at the end of IV semester, when given the final assessment of the case. The exam consists of written and oral part. The condition for obtaining signatures is one preliminary exam (50% of the theoretical part and 50% practical part) The condition for the release of the written exam: laid both preliminary exams (theory and practice) The final grade is determined as follows: percentage Rating 50% to 61% sufficient (2) 62% to 74% good (3) 75% to 87% very good (4) 88% 100% excellent (5) The final exam is taken in the examination periods, in terms that the students be on time to meet.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	K. Žager, B. Tušek, V. Vašiček, L. Žager: *Osnove računovodstva – Računovodstvo za neračunovođe*, RIF, Zagreb, 2008. (2016)	3	

Optional literature (at the time of submission of study programme proposal)	- K. Žager, N. Dečman: *Računovodstvo malih i srednjih poduzeća*, HZRIF, Zagreb, 2015. - Grupa autora: *Računovodstvo trgovačkih društava*, TEB, Zagreb, 2014.
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations

Other (as the proposer wishes to add)	

NAME OF THE COURSE	BUSINESS SYSTEMS ORGANISATION						
Code	FEEE08	Year of study	3				
Course teacher	Ivica Veža, PhD, Full Professor, Ivan Matić, PhD, Assistant Professor	Credits (ECTS)	4				
Associate teachers	Nikola Gjeldum, Ph. D., Assistant Professor	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	30	0	0
Status of the course	elective	Percentage of application of e-learning	0%				

COURSE DESCRIPTION

Course objectives	Training students for/main course objective is: - to introduce students with organisation as a mean for achieving objectives, - to emphasize the foundations of organisation and to teach students how to independently organize and design organisational structures and organisation		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	After course completion, students will be able to/competent to (course' learning outcomes): - Explain the difference between classic and neoclassic theories of organisation - List basic modern theories of organisation - Define basic elements of organising business - Define factors which influence organisational structure design - Analyse Lean management tools - Define existing/current state by value stream mapping and draw new state - Implement kaizen method		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Introduction: Terminological explanation and definition of terms science, science of work and organisation science. Definition of term organisation. The role and importance of organisations in society.	2	
	Objectives, principles, methods and types of organising/organisation.	2	
	Short overview of organisation theories: Classic theory. Neoclassic theory. Modern theory.	2	
	Enterprise and entrepreneurship: Explanation and definition of the term enterprise. Foundation and development of enterprise. Enterprise types. Basic elements of organising business: organisational structure, organisation of internal relations and organisation's management system.	2	
	Enterprise's organisational structure: Terminological determination of organisational structure. Organisational structure elements. Overview of various organisational structure typologies.	2	
	Process of designing organisational structure. Organisational structure design's influencing factors.	2	
	Organisational dynamic and organisational behaviour: External and internal environment. Changes in environment. Organisational dynamic.	2	

	Change management. Individual and groups in organisation. Organisational behaviour. Organisational culture. Business ethic.	2	
	Internal relations' organisation: Terminological definition of internal relations.	2	
	The role and decomposition of internal economic relations. Designing responsibility centres in organisation.	2	
	Organisation's management system: Management - term definition. Basic management functions and levels.	2	
	Management and leadership. Designing organisation's management systems. Case studies: Analysing business practice cases.	2	
	Project management (the basics, project management's organisational structures).	2	

List of laboratory or design exercises	LE or DE hours
Introduction: Various organisational structures and their characteristics	2
Methods for reorganisation of business and production systems	2
Basic lean tools	2
Value stream mapping, existing/current state	8
Lean tools applicable for business systems	4
Value stream mapping, future state	3
Kaizen levels	2
Business systems simulation modelling Business systems planning, control and management software	3

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Minimum of 70% attendance on lectures and auditory exercises' planned hours. All planned auditory exercises completed.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1,0	Research		Practical training	
	Experimental work		Report		Individual work	2,0
	Essay		Seminar essay		Laboratory exercises	
	Tests	1,0	Oral exam		Laboratory exercises' preparation	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester, two tests will be conducted. First test will be conducted following first 7 weeks of classes, and second test will be conducted after all 15 weeks of classes are completed. On the final exam, students are taking course's elements which they did not pass when 2 mentioned tests were conducted. Requirement for positive/passing grade is the achievement of 40% of overall test points on each test. Grade (%) = 0,5 (M1 + M2) M1, M2 – points achieved on tests (in %) Final course's grade is determined as follows:: Percentage => Grade 50% to 61% => sufficient (2) 62% to 74% => good (3) 75% to 87% => very good (4) 88% to 100% => excellent (5)

<table>
<tr><td></td><td colspan="3">Students, who do not pass the course through tests, are taking written exam which is constituted of 5 questions and assignments.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>Dulčić, Ž.; Pavić, I.; Rovan, M.; Veža, I.: Proizvodni menedžment. Fakultet elektrotehnike, strojarstva i brodogradnje – Ekonomski fakultet, Split, 1996.</td><td>5</td><td></td></tr>
<tr><td>Sikavica P.; Novak, M.: Poslovna organizacija, informator, Zagreb, 2011.</td><td>5</td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">Schroeder, R.G.: Upravljanje proizvodnjom, Mate, Zagreb, 2000</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Keeping records of class’ attendance
- Annual analysis of exam taking successfulness
- Students' feedback via questionnaires (evaluation of teacher).
- Teacher’s self-evaluation
- Feedback from students which have completed overall programme (ad are working) on course’s content relevancy</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	COMMUNICATION SKILLS IN ENGLISH						
Code	FEOC05	Year of study	3.				
Course teacher	Mirjana M. Kovač, Ph.D., Assistant Professor Nina Sirković, Ph.D., Assistant Professor	Credits (ECTS)	4				
Associate teachers	-	Type of instruction (number of hours)	L	S	AE	LE	DE
			0	30	0	0	0
Status of the course	Optional	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Training students for: - Development of students' oral and written communication skills in English - Leading of formal and informal communication as well as team communication - Improving general English language knowledge		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Prepare and hold a professional presentation in English - Implement rules for writing professional papers as well as for formal writing in general - Use phrasal expressions to improve English language knowledge - Lead a formal professional conversation - Actively participate in an international team as well as in formal meetings		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	S hours	AE hours
	Course introduction: presentation skills, written and interpersonal communication	2	
	Presentation planning: mind maps and the pyramid principle	2	
	Presentation structure, verbal, vocal and nonverbal presentation skills	2	
	Technical presentation: organisation and performance	2	
	Presentations: peer assessment	6	
	First midterm exam		
	Written communication: writing seminar, final, professional and scientific paper	2	
	Technical paper structure	2	
	Scientific style used in technical writing	2	
	Business communication skills: socialisation and interpersonal communication	2	
	Formal and informal communication	2	
	Team communication	2	
	Second midterm exam		
Format of instruction	☐ lectures ☒ seminars and workshops ☐ exercises ☐ *on line* in entirety	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor	

<table>
<tr><td></td><td colspan="6">☐ partial e-learning
☐ field work</td><td colspan="2">☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="8">The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required exercises.</td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td></td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td>Individual work</td><td>1</td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>Presentation</td><td>1</td></tr>
<tr><td>Tests</td><td>2</td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td></td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="8">There are two midterms and a final exam. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. Students who do not pass both midterm exams have to take the final exam containing learning materials from both midterm exams.

Grade (in percentage) is formed according to the score:

88-100% - excellent (5)

75-87% - very good (4)

62-74% - good (3)

50-61% - sufficient (2).

Midterm and final exams are carried out according to the academic year calendar.</td></tr>
<tr><td rowspan="3">Required literature (available in the library and via other media)</td><td colspan="5">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="5">Kovač M. M., Sirković, N. (2014). Presentation, Writing and Interpersonal Communication Skills. Split. FESB.</td><td>10</td><td></td></tr>
<tr><td colspan="5">Barker, A. (2010). Improve your communication skills. London and Philadelphia. Kogan page.</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="8">Master, Peter (2004). English Grammar and Technical Writing. Washington: US Department of State, Office of English Language Programs.

Mc Carthy, Michael; O'Dell, Felicity. (2008). Academic Vocabulary in Use. Cambridge: Cambridge University Press.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="8">Evaluation of results in accordance with the above learning outcomes
Feedback from students via surveys
Self-evaluation of teachers</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="8"></td></tr>
</table>

NAME OF THE COURSE	COMPUTER- AIDED ANALYSIS						
Code	FESE17	Year of study	2				
Course teacher	Damir Vučina, Ph. D., Full Professor	Credits (ECTS)	5				
Associate teachers	Igor Pehnec, Ph. D., Assistant Professor Ivo Marinić- Kragić, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	30	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Acquiring theoretical know-how in basic numerical methods in engineering. Developing competences in modeling engineering problems for numerical methods. Developing practical skills in developing Matlab code for engineering problems.
Course enrolment requirements and entry competences required for the course	Competences acquired in courses Mathematics I, Mechanics I
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	After completing the course, students will be able to: • Explain the basic setup of computers, • Describe the procedure of developing programs, • MATLAB language: characterize the properties of syntax elements • Categorize the properties of numerical procedures • Develop flowcharts for simpler problems • Numerically model simpler engineering problems • Create and apply basic methods of numerical analysis for: solving linear systems, nonlinear equations, integration, differentiation, interpolation, approximation • Develop and test own programs in MATLAB

Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Introduction to computers, binary system, logic functions. Introduction to computer-aided analysis.	2	
	Basics of numerical procedures and analysis, simple algorithms.	2	
	MATLAB - language programming part 1	2	
	MATLAB -language programming part 2	2	
	Developing flowcharts and pseudo-code, part 1	2	
	Developing flowcharts and pseudo-code, part 2	2	
	Elementary numerical procedures and engineering applications (mechanics, fluid mechanics, thermodynamics)	2	
	Engineering application of numerical methods: Solving linear systems	2	
	Engineering application of numerical methods: Solving nonlinear equations and systems.	2	
	Engineering application of numerical methods: Interpolation by polinomials and piecewise polynomials	2	
	First midterm exam		
	Engineering application of numerical methods: Approximation using polinomials.	2	
	Engineering application of numerical methods: Numerical differentiation and integration. Search and optimization-	2	

	basics.		
	Examples of setting up physical and mathematical models for different engineering problems. Development of corresponding algorithms and computer programs in MATLAB.	2	
	Second midterm exam		
	List of laboratory exercises		LE hours
	MATLAB, workspace, compiler, linker. Basic terms of MATLAB, Types, operators, expressions.		2
	Declaring variables, formatted output, data input.		2
	Conditional expressions. Branching, if, if-else, if-else if-...-else		2
	Loops, while(), do-while(), for().		2
	Files, fopen(), fprintf(), fscanf(), load(), dlmread(), dlmwrite()…		2
	Matrix operations. Operators at the level of elements		2
	Functions, declaration, definition, passing arguments		2
	2D and 3D graphics in MATLAB		2
	Introduction to numerical methods. Linear systems		2
	Introduction to numerical methods. Non-linear equations, successive halving and Newton's method		2
	Introduction to numerical methods. Integration, trapezoid quadrature, Simpson's method.		2
	Introduction to numerical methods. Approximation and interpolations.		2
	Numerical methods in MATLAB		2

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	3	Research		Practical training	
	Experimental work		Report		Individual work	2
	Essay		Seminar essay		Laboratory exercises	
	Tests		Oral exam		Preparation for laboratory exercises	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. Each midterm test consists of respective theoretical questions and numerical problems. The final tests consist of overall theoretical questions and numerical problems. In the final exams, students that did not pass the midterm exams take part. The midterm and final exams are carried out as written tests. The requirement for passing grade is the positive assessment of laboratory exercises and 50 % points on each midterm exam or the final exam. Grade (in percentage) is formed according to the formula: Grade(%) = 0,5 (M1 + M2) the activities in percentage: • M1, M2 – test results.

Required literature (available in the library and via other	**Title**	**Number of copies in the library**	**Availability via other media**

media)	D. Vučina, "Primjena računala u inženjerskoj analizi", Sveučilište u Splitu, FESB, Split, 2007		
	I. Pehnec, materijali za vježbe		
Optional literature (at the time of submission of study programme proposal)	Željan Lozina, 'Uvod u programiranje', Sveučilište u Splitu, 2005 S. C. Chapra, R.P. Canale, "Numerical Methods for Engineers", McGraw-Hill 2006 G. Lindfield, J. Penny, "Numerical Methods using MATLAB ", Ellis Horwood 1995 W.Cheney, D. Kincaid, 'Numerical mathematics and computing', Brooks/Cole 2008		
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	COMPUTER AIDED DESIGN 1							
Code	FEEE11	Year of study	2					
Course teacher	Gojko Magazinović, Ph. D., Full Professor	Credits (ECTS)	5					
Associate teachers	Ivan Pivac, Teaching assistant.	Type of instruction (number of hours)	L	S	AE	LE	DE	
			30	0	0	0	30	
Status of the course	Obligatory	Percentage of application of e-learning	50					

COURSE DESCRIPTION

Course objectives	Training students for: - understanding and application of basic terms and principles of feature-based modeling, parametric modeling, and geometric modeling, - ability to build simple models, assemblies, and technical drawings by using a geometric modeling tool.		
Course enrolment requirements and entry competences required for the course	-		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - explain fundamental principles of geometric modeling, parametric modeling, and feature based modeling, - describe an importance and available approaches to the exchange of design data between the different CAD systems, - explain the fundamental principles of the parametric curve and parametric surface definitions, - use a computer aided design tool, - construct simple geometric models and assemblies, - determine the model cross-section properties, - determine the model mass properties.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Introduction to a course. Description of an e-learning portal.	2	
	Introduction to CAD/CAM/CAE systems, part I: basic terms.	2	
	Introduction to CAD/CAM/CAE systems, part II: applications; the expansion of 3D CAD technology.	2	
	Elements of CAD/CAM/CAE systems; hardware; software.	2	
	Geometric modeling; feature based modeling; parametric modeling.	2	
	Introduction to graphics programming, part I: OpenGL; coordinate systems; homogeneous coordinates; coordinate transformations.	2	
	Introduction to graphics programming, part II: hidden line removal; rendering; shading; ray-tracing.	2	
	First midterm exam		
	CAD data structures; exchange of design data between the different CAD systems.	2	
	Parametric curves, part I: Hermite curve.	2	
	Parametric curves, part II: Bezier curve; B-Spline curve.	2	
	Parametric curves, part III: interpolation curve; geometric continuity; NURBS curves.	2	
	Parametric surfaces: bilinear surface; Bezier surface; B-Spline	2	

	surface; NURBS surface.		
	Modeling and analysis (A brief on structural analysis).	2	
	Second midterm exam		
	List of laboratory or design exercises		LE or DE hours
	The environment of CAD design tool; extrusion of a closed curve.		2
	Sketch tool; extrude; round; chamfer; hole; parameters.		2
	Simple model editing.		2
	Revolving of a closed curve.		2
	Design planes.		2
	Sections; shells, constraints; sketching utilities.		2
	Translation patterns; one- and two-dimensional.		2
	Radial patterns of set features.		2
	Radial patterns of built features; feature copying.		2
	Helical sweep.		2
	Making assemblies.		2
	Technical drawing preparation, part I.		2
	Technical drawing preparation, part II.		2

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☒ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☒ computer work (other)
Student responsibilities	Attendance of at least 70% lectures and all design exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	2	Research		Practical training	
	Experimental work		Report		Individual work	0,8
	Essay		Seminar essay		Computer work	2
	Tests	0,2	Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterm exams during the semester (carried out by using computer and e-learning portal; 90 minutes duration; each exam: 25 theoretical questions and two design problems). The final exams attend students that didn't pass the midterm exams. The requirements for passing grade are the fulfillment of student responsibilities and at least 50% points on each midterm exam or the final exam. Grade (in percentage) is determined as follows: Grade(%) = (M1 + M2)/2 where M1 and M2 are the midterm grades. The final grades are: satisfactory (2), grades from 50% to 61%; good (3), grades from 62% to 74%; very good (4), grades from 75% to 87%; and excellent (5), grades from 88% to 100%.

	Title	**Number of copies in the library**	**Availability via other media**
Required literature (available in the library and via other media)	G. Magazinović, Bilješke uz predavanja, FESB	-	e-learning portal
	R. Toogood: Creo Parametric 2.0 Tutorial and Multimedia DVD, SDC Publications, Mission, 2013.	1	https://books.google.hr
Optional literature	- K. Lee: Principles of CAD/CAM/CAE Systems, Addison-Wesley, Reading, 1999.		

(at the time of submission of study programme proposal)	- C. McMahon, J. Browne: CADCAM: Principles, Practice and Manufacturing Management, Prentice-Hall, Harlow, 1998.
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results by the above learning outcomes - Feedback from students via surveys - Institutional and non-institutional evaluations
Other (as the proposer wishes to add)	

NAME OF THE COURSE	DESIGN FOR MANUFACTURING						
Code	FETC12	Year of study	3				
Course teacher	Nikola Gjeldum, Ph. D. Assistant Professor	Credits (ECTS)	4				
Associate teachers	Marina Crnjac, Teaching assistant Ivan Peko, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	0	30
Status of the course	Elective	Percentage of application of e-learning	50 %				

COURSE DESCRIPTION

Course objectives	Objectives: – Understanding and application of Design for Manufacturing basic principles – Teach students to design a product in Siemens NX CAD software – Teach student to design a product taking into account a costs, raw material shapes availability and available manufacturing equipment – Teach student to analyze a product and distinguish elements where it is possible to make improvements	
Course enrolment requirements and entry competences required for the course	None	
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: – Design a product according to Design for Manufacturing guidelines – Design a product in Siemens NX CAD software – Generate designed product drawings – Combine application of different raw materials and technological processes during product design phase – Compare different product elements according to Design for Manufacturing criteria – Adapt product elements design aiming to cheaper and faster production process	
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours
	Introduction and historical view of Design for Manufacturing development	2
	Basic concepts of Design for Manufacturing	2
	Economical choice of production process	2
	Economical choice of raw material shape	2
	General principles and guidelines of Design for Manufacturing	4
	Lean manufacturing methods	2
	First midterm exam	2
	Product design for machining processes	2
	Product design for deforming processes. Product design for casting processes	2
	Product design for polymer materials production processes	1

	Product design for surface treatment processes	2
	Product design for transport and logistic	2
	Product design modifications	2
	Basics of Design for Assembly	1
	Second midterm exam	2
	List of design exercises	DE hours
	Introduction in Siemens NX CAD software	2
	Part design in Siemens NX	10
	Product design modifications in Siemens NX	8
	Generating product drawings in Siemens NX	6

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures and exercises in the amount of at least 70 % of the times scheduled.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1	Research		Practical training	0,5
	Experimental work		Report		Individual work	2,2
	Essay		Seminar essay		(Other)	
	Tests	0,2	Oral exam		(Other)	
	Written exam	0,1	Project		(Other)	

Grading and evaluating student work in class and at the final exam	During semester there are two midterm exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. In the first two final exams students that did not pass at least one of the midterm exams take part. In the third and fourth final exams students take the whole exam regardless results of midterm exams. The requirements for passing grade are positive assessment of individual project and positive assessment in exam. Positive assessment represents minimal 50% points on each midterm exam or minimal 50% points on final exam. Final exams are conducted in written form. Midterm exams and final exams consist of theoretical questions and numerical problems. Grade (%) = (D + E) / 2 D – Individual project grade (%) E – average points achieved on midterm exams expressed as a percentage or number of points achieved on the final exam expressed as a percentage. E = (M1 + M2)/2 M1, M2 – average points achieved on midterm exams expressed as a percentage. Grade (%): Final mark: 50% - 61% sufficient (2) 62% - 74% good (3) 75% - 87% very good (4) 88% - 100% excellent (5)

Required literature	**Title**	**Number of**	**Availability via**

(available in the library and via other media)		**copies in the library**	**other media**
	Gjeldum, N.: "Dizajn za proizvodnju", lectures on e-learning, FESB Split		Internet (e-learning)
	Marinescu, I., Boothroyd, G.: "Product design for manufacture and assembly", Marcel Dekker, New York, 2002.	1	
	Corrado P.: "Design for Manufacturing: A Structured Approach, 1st Edition", Butterworth-Heinemann, Woburn, 2001.	1	
Optional literature (at the time of submission of study programme proposal)	1. A.J.D.Lambert Surendra M. Gupta: "Disassembly Modeling for Assembly, Maintenance, Reuse, and Recycling", CRC Press, 2000. 2. Molloy, O., Tilley, S., Warman, E.: "Design for manufacturing and assembly – Concepts, architectures and implementation, Springer Science + Bussines Media, 1998. 3. WEB publications on DFM		
Quality assurance methods that ensure the acquisition of exit competences	– keeping records of the attendance of students – annual evaluation of teachers – periodical evaluation of individual project advancement – feedback from students via surveys – self-evaluation of teachers – institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	DESIGN OF INDUSTRIAL PRODUCTS						
Code	FESE04	Year of study	3				
Course teacher	Željko Domazet, Ph. D., Full Professor Lovre Krstulović-Opara, Ph. D., Full Professor	Credits (ECTS)	5				
Associate teachers		Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	0	30
Status of the course	Obligatory	Percentage of application of e-learning	40%				

COURSE DESCRIPTION

Course objectives	Training students for: - Acquiring basic terminology and methodologies of product design and development with goal to optimise applicability, shape and appearance of industrial products. - Acquiring knowledge about fundaments, methods and technologies for designing industrial products. The course covers product development process from market and concept researches to the product ramp up. - Using CAD program SolidWorks and 3D scanner to create prototypes.
Course enrolment requirements and entry competences required for the course	None
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Name main epochs of industrial design. - Name main designers and design schools. - Explain basic of ergonomics, aesthetics and gestalt theory. - Explain generalised product development process. - Describe advanced methods of rapid prototyping and 3D scanning - Design and create simple industrial product by using SolidWorks package.

Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Introduction to DIP and generalized product developement.	2	
	Product planning.	2	
	Identifying customer needs.	2	
	Product specifications.	2	
	Concept generation and selection.	2	
	Product Architecture.	2	
	Industrial design.	2	
	Design for manufacturing.	2	
	Prototyping.	2	
	History of industrial design	2	
	Aesthetics.	2	
	Ergonomy.	2	
	Gestalt theory.	2	
	List of laboratory or design exercises		DE hours
	CAD modelling in software package SolidWorks		6
	3D scanning		1
	Product development from the market research to the CAD prototype.		13
	Preparing final report and product presentation.		8

<table>
<tr><td>Format of instruction</td><td colspan="3">☒ lectures
☒ seminars and workshops
☐ exercises
☐ on line in entirety
☐ partial e-learning
☐ field work</td><td colspan="3">☐ independent assignments
☒ multimedia
☐ laboratory
☐ work with mentor
☒ Group work- product developement</td></tr>
<tr><td>Student responsibilities</td><td colspan="6"></td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>2</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td>Individual work</td><td>1</td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>2</td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td></td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">Evaluation of gained knowledge in form of two colloquiums.
Maximal score is 100 points, while minimum is passing of exam is with 50 points.
Exam: individual, theoretical.
Mode of exam: written form.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="3">Design of industrial products (in Croatian)</td><td></td><td>E-learning</td></tr>
<tr><td colspan="3">Additional course materials</td><td></td><td>E-learning</td></tr>
<tr><td colspan="3"></td><td></td><td></td></tr>
<tr><td colspan="3"></td><td></td><td></td></tr>
<tr><td colspan="3"></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">Otto, K. N., Wood K. L., Product Design, Prentice Hall, New York, 2001.
Quarante D. Osnove industrijskog dizajna, Sveučilišna naklada Zagreb, 1991.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">- Student evaluations
- Registering student’s attendance to course</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

NAME OF THE COURSE	ELECTRICAL ENGINEERING						
Code	FENE01	Year of study	2.				
Course teacher	Ivica Jurić-Grgić, Ph. D., Associate Professor	Credits (ECTS)	6				
Associate teachers	Nedjeljka Grulović – Plavljanić, Senior Lecturer Ivan Krolo, Teaching Assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	15	15	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Training students for: - application of basic principles and laws of electrical engineering, - setting up and solving simple electrical circuits, - permanent adoption of basic knowledge in the field of electrical machines.		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - define the fundamental phenomena, the quantities and the laws of electrical engineering, - apply fundamental laws of electrical engineering for the calculation of electromagnetic quantities, - analyse simple electrical networks, - measure basic electrical values (current, voltage, resistance). - describe basic principles of electrical machines.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Basic terms. Electrostatics:electricity and physical property of matter. Coulomb's law; Electric field; Electric flux density, Gauss's law.	2	1
	Electrostatics:Electrical work, electrostatic voltage, electrostatic potential, capacitance, capacitance of the capacitors.	2	1
	Electrostatics: Matter in electrical field, capacitors; static electricity; lightning protection.	2	1
	DC currents: Electric circuits; electrical property of matter; Electrical conductivity and electrical resistance; voltage and current sources; Ohm's law; temperature dependence of electrical resistance; series, parallel and combination circuits.	2	1
	DC currents: Kirchhoff's Laws; power and energy of DC current.	2	1
	DC currents: Current and voltage measurements; electrical resistance measurement; Wheatstone bridge; Wye–Delta transformation; circuit analysis techniques; electrolysis and chemical sources of electric current.	2	2
	Magnetism: Basics of magnetism; natural magnet and *electromagnet; magnetic flux; Faraday's law; magnetic forces on moving charges and on a current-carrying wire; magnetic force between two parallel current-carrying wires; Biot–Savart law; Ampere's Law; toroidal solenoid.*	2	1
	Magnetism: Mutual and self inductance; leakage of magnetic flux; ferromagnetism; magnetic hysteresis;	2	1

	magnetic circuit; magnetic energy; magnetic force.		
	AC currents: Current and voltage sinusoidal waveform; form and crest factor; generation of a voltage sinusoidal waveform; Euler's formula for complex numbers; phase relationships in AC Circuits; Ohm's law in complex form; resistive and reactive impedance in AC Circuits; series, parallel and combination AC circuits.	2	2
	AC currents: Power and energy of AC current; circuit analysis techniques using complex numbers; three-phase AC circuits.	2	2
	Transformers	2	0
	Synchronous machines	2	0
	Induction motors	1	0
	DC motors; universal motors.	1	0
	List of laboratory exercises		LE hours
	Series, parallel and combination DC circuits		3
	Kirchhoff's Laws and Thévenin's theorem		3
	Resistive and reactive impedance in AC Circuits		3
	Power of AC current		3
	Open circuit test on transformer		3

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Studentresponsibilities	The presence on lectures in the amount of at least 70% of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for eachactivity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1	Research		Practical training	
	Experimental work		Report		Individual work	4
	Essay		Seminar essay		Laboratory exercises	0,5
	Tests	0,2	Oral exam		Preparation for laboratory exercises	0,2
	Written exam	0,1	Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester there will be two midterm tests. The first test will be at the eighth week of classes, the second at the first week of the exam period. Student can pass the entire exam by midterm tests. At the two final exams, students take parts of the curriculum that did not pass by midterm tests. If at the first final exam student passes one of the two parts of curriculum that part of curriculum the student does not have to take on another final exam. The condition for positive assessment is that the student has at least 50% of each part of the curriculum at the midterm tests or at the final exams. The final grade (in percent) is formed on the basis of all activities according to the formula: Rating (%) = 0.1 * LV + 0.45 * (G1 + G2) wherein the activity is expressed in percentage according to: LV -percentage obtained by laboratory exercises, G1, G2 - percentage obtained by midterm tests or final exams of the parts of curriculum given in lectures.

<table>
<tr><td></td><td colspan="3">Students who did not pass the exam after two final exams can pass the exam at the last week of August or the first week of September. Last chance to take the exam in this school year is a so-called commission exam. In a so-called commission exam all students take the entire curriculum, and the condition for positive assessment is that the student has at least 50% of entire curriculum.

The final score (in percentage) is formed on the basis of all activities according to the formula:

Rating (%) = 0.1 * LV + 0.9 * G

wherein the activity is expressed in percentage according to:

LV -percentage obtained by laboratory exercises,
G - percentage obtained by exams of the entire curriculum given in lectures.

The final grade is determined as follows:

Rating Grade
50% to 61% sufficient (2)
62% to 74% good (3)
75% to 87% very good (4)
88% 100% excellent (5)</td></tr>
<tr><td rowspan="2">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>I. Jurić-Grgić: Lectures, FESB</td><td></td><td>e-learning portal</td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">A. Maletić: Osnove elektrotehnike, ELMAP, Split, 1993.
R. Wolf: Osnove električnih strojeva, Školska knjiga, Zagreb, 1985.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Evaluation of students presence on lectures
- Evaluation of results in accordance with the above learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers
- Institutional and non-institutional evaluations</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	ENGINEERING GRAPHICS 1						
Code	FESE11	Year of study	1				
Course teacher	Željko Domazet, Ph.D., Full Professor	Credits (ECTS)	4				
Associate teachers	Miro Bugarin, Ph.D., Assistant Professor, Ivan Špar, Teaching assistant Dejan Bobić, Teaching assistant, Joško Kunac, Teaching assistant, Petra Bagavac, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			15	0	0	0	30
Status of the course	Obligatory	Percentage of application of e-learning	40%				

COURSE DESCRIPTION

Course objectives	Training students for: - Reading and making technical drawings - Getting knowlage of descriptive geometry - Solving metrics tasks, cross sections and intersections of geometrical bodies
Course enrolment requirements and entry competences required for the course	None
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Create 2D and 3D techical drawings - understand any technical drawing - apply general laws of descriptive geometry - precisely draw any cross section or intersection of geometrical bodies

Course content broken down in detail by weekly class schedule (syllabus)

Course content	L or S hours	AE hours
Introduction and general terms	1	
Ortogonal projection on 2 or 3 planes	1	
Mutual position between point, line and plane	1	
Metrics tasks	2	
Projections of a geom. body	2	
I. colloquium	2	
Cross sections of different geometrical bodies	2	
Intersections of different geometrical bodies	2	
II. colloquium	2	

List of constructive exercises	hours
Metrics tasks	8
Mutual position between point, line and plane	6
Cross sections of different geometrical bodies	8
Intersections of different geometrical bodies	8

Format of instruction		
	☒ lectures ☒ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☒ laboratory ☐ work with mentor ☐ (other)

<table>
<tr><td>Student responsibilities</td><td colspan="6">Lectures 70%, Exercises 100%</td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>1</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td>Individual work</td><td>1</td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>Constructive tasks</td><td>1</td></tr>
<tr><td>Tests</td><td>0.5</td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>0.5</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">Evaluation of gained knowledge in form of two colloquiums.
Maximal score is 100 points, while minimum is passing of exam is with 50 points.
Exam: individual,practical.
Mode of exam: written form.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="3">Ž. Domazet, M. Bugarin „INŽENJERSKA GRAFIKA“-materials of lectures, FESB.</td><td></td><td>E-learning</td></tr>
<tr><td colspan="3">Ksenija Horvatić-Baldasar, Ivanka Babić „NACRTNA GEOMETRIJA“, SAND d.o.o. Zagreb</td><td>5</td><td>Library FESB</td></tr>
<tr><td colspan="3"></td><td></td><td></td></tr>
<tr><td colspan="3"></td><td></td><td></td></tr>
<tr><td colspan="3"></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">- M. Opalić, M. Kljajin, S. Sebastijanović „TEHNIČKO CRTANJE“ Zrinski d.d. Zagreb
- Ivan Prebil „OPISNA GEOMETRIJA“ fakulteta za strojništvo, Ljubljana</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">- Student evaluations
- Registering student’s attendance to course</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

NAME OF THE COURSE	ENGINEERING GRAPHICS 2						
Code	FESE12	Year of study	1				
Course teacher	Tonči Piršić, Ph. D., Associate Professor	Credits (ECTS)	4				
Associate teachers	Petra Bagavac, Teaching assistant, Miro Bugarin, Ph. D., Assistant Professor, Ivan Špar, Teaching assistant Joško Kunac, Teaching assistant, Dejan Bobić, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	0	30
Status of the course	Obligatory	Percentage of application of e-learning	40%				

COURSE DESCRIPTION

Course objectives	Training students for: - Ability of drawing technical drawings both by hand and by using the computer. Understanding of basis principles of engineering design.		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: -		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Types of drawings. Drawing formats.	2	2
	Part lists. Scales. Line types and purposes. Layers. Prospective views. Isometric view. Orthogonal view.	4	4
	Cross-sections. Hatching. Reducing the number of views. Simplifications in drawings.	4	4
	Drawing of screw threads. Schematic representation of threads. Dimensioning: line, radius, diameter, arc.	4	4
	Dimensioning of cone and inclination. Dimensioning styles. Surface roughness. Parameters of surface roughness, symbols and application.	4	4
	Blocks and their properties. Using the blocks. Attributes. Prototype drawing. Tolerances and fits. Fit types.	6	4
	ISO system of fits. Geometric tolerances. Basic of AutoCAD.	2	6
	List of laboratory or design exercises		LE or DE hours

Format of instruction	☒ lectures ☐ seminars and workshops ☒exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1	Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests	1	Oral exam		(Other)	
	Written exam	2	Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	1. T. Piršić: "Tehničko crtanje", FESB - Split, 2010.		
	2. T. Piršić: "AutoCAD u strojarstvu", FESB - Split, 2010.		
	3. Grupa autora: Inženjerski Priručnik, IP1 – Temelji inženjerskih znanja (Chapter) “Inženjerska grafika”), Školska knjiga, Zagreb, 1999.		
	4. M. Opalić, M. Kljajin, S. Sebastijanović: “Tehničko crtanje”, Zrinski d. d. Čakovec, 2003.		

Optional literature (at the time of submission of study programme proposal)	Ć. Koludrović: “Tehničko crtanje u slici”, Naučna knjiga, Beograd, 1985.
Quality assurance methods that ensure the acquisition of exit competences	- Lectures responsible for the same subject area collaborate closely and monitor each other's work. Occassional class observations and appraisal by Head of Department
Other (as the proposer wishes to add)	

NAME OF THE COURSE	ENGLISH LANGUAGE 1					
Code	FEOE02	Year of study	1			
Course teacher	Mirjana M. Kovač, Ph.D., Assistant Professor	Credits (ECTS)	3			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			0	30	0	0
Status of the course	Mandatory	Percentage of application of e-learning				

COURSE DESCRIPTION

Course objectives	- develop the skills of reading and understanding scientific and technical texts; - develop the oral communication skills in the professional field; - adopt scientific and technical terminology; - master grammatical structures typical for technical vocabulary.
Course enrolment requirements and entry competences required for the course	None.
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - understand the technical and scientific texts from the textbook; - recognize relevant information in the text; - interpret tables and graphs; - use scientific terminology and phrases; - use the passive forms of verbs; - appropriately ask questions related to the texts.

Course content broken down in detail by weekly class schedule (syllabus)	Course content	S
	Introduction, course description, oral evaluation of language knowledge; Unit 1-The engineering profession	2
	Study section 1 – The use of the passive forms of verbs in scientific and technical writing. Verbal and nonverbal communication	2
	Unit 2 - Engineering mechanics	2
	Study section 2 –Contracted relative clauses	2
	Unit 3 - Numbers and Mahematics	2
	Study section 3 – Mathematical symbols used in engineering	2
	Unit 4 –Engineering materials	2
	Mechanical properties of materials	2
	Study section 5 – Compound nouns	2
	Unit 6 - Stress and strain	2
	Study section 6 – Irregular plurals	2
	Unit 7 - Design stresses and a factor of safety	2
	Study section 7- Derived adjectives	2

Format of instruction		
	☐ lectures ☒ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)

<table>
<tr><td></td><td colspan="6">☐ field work</td><td></td></tr>
<tr><td>Student responsibilities</td><td colspan="7">Active participation in all activities: lectures, consultations, searching the literature, individual work.</td></tr>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>1,1</td><td>Research</td><td></td><td>Practical training</td><td colspan="2"></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td>0,5</td><td>Individual work</td><td colspan="2">1,1</td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td colspan="2"></td></tr>
<tr><td>Midterm exam</td><td>0,2</td><td>Oral exam</td><td></td><td>(Other)</td><td colspan="2"></td></tr>
<tr><td>Written exam</td><td>0,1</td><td>Project</td><td></td><td>(Other)</td><td colspan="2"></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="7">There are two midterm exams and two examination periods. The first midterm exam is after 7 weeks of lecturing, and the second one is after the next 6 weeks. The lowest passing point is 50% in each midterm exam. The students who do not pass the midterm exams write the exams. The final grade for the course is calculated as a percentage of points earned. The final grade is determined applying the relative ECTS grading scale in accordance with the Rules of the Studying System of the University of Split. Those obtaining passing grades are divided into four subgroups: the best 15% are awarded an excellent grade, the next 35% a very good grade, the following 35% a good grade, and the final 15% a sufficient grade. Students who fail the two exams in the first examination period take the exam in the autumn final examination period. The final exam consists of the material covered in both midterm exams.</td></tr>
<tr><td rowspan="2">Required literature (available in the library and via other media)</td><td colspan="5">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="5">- Kovač, M.M., Sirković, N.: Presentation, Writing and Interpersonal Communication Skills. FESB, 2014.</td><td>20</td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="7">Davies, J. W.: Communication skills: A Guide for Engineering and Applied Science Students. Pearson: Prentice Hall, 2001

Harris, T. E., Sherblom, J.C.: Small Group and Team Communication. Pearson Education/Allyn & Bacon, 2010.Press/Wiley, 2003</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="7">• Evaluation of results in accordance with the above learning outcomes
• Feedback from students via surveys
• Self-evaluation of teachers
• Institutional and non-institutional evaluations</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="7"></td></tr>
</table>

NAME OF THE COURSE	ENGLISH LANGUAGE 2					
Code	FEOE03	Year of study	1			
Course teacher	Mirjana M. Kovač, Ph.D., Assistant Professor	Credits (ECTS)	3			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			0	30	0	0
Status of the course	Mandatory	Percentage of application of e-learning				

COURSE DESCRIPTION

Course objectives	- develop the skills of reading and understanding scientific and technical texts; - develop the oral communication skills in the professional field; - adopt scientific and technical terminology; - master grammatical structures typical for technical vocabulary.	
Course enrolment requirements and entry competences required for the course	None.	
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - use effectively basic grammar rules for sentence structures: relative clauses and conditional sentences in everyday language; - understand the technical and scientific texts from the textbook; - recognize relevant information in the text; - use scientific terminology and phrases in business English; - give oral presentations; - write an effective CV, business letters, job applications.	
Course content broken down in detail by weekly class schedule (syllabus)	Course content	S
	Introduction, course description, oral evaluation of language knowledge	2
	Unit 1-Globalisation: discussion, reading and listening, language work; comparing	2
	Managing telephone calls; case study: Writing	2
	Unit 2-Brands: discussion, reading and listening, language work	2
	Talking about three favourite brands and product promotion; taking parts in meetings; case study	2
	Unit 4-Advertising: discussion, language work, reading and listening; articles	2
	Presentation skills (starting presentations), peer evaluation	2
	Presentation skills (managing meetings), peer evaluation	2
	Presentation skills (negotiating and socializing)	2
	Unit 9-Money-dealing with figures, reading and listening, language work; case study	2
	Financial market-language work	2
	Writing skills:report	2
	Rehearsal and preparation for the exam	2
Format of instruction	☐ lectures ☒ seminars and workshops ☐ exercises ☐ *on line* in entirety	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor

<table>
<tr><td></td><td colspan="6">☐ partial e-learning
☐ field work</td><td colspan="2">☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="8">Active participation in all activities: lectures, consultations, searching the literature, individual work.</td></tr>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>1,1</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td>0,5</td><td>Individual work</td><td>1,1</td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Midterm exam</td><td>0,2</td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>0,1</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="8">There are two midterm exams and two examination periods. The first midterm exam is after 7 weeks of lecturing, and the second one is after the next 6 weeks. The lowest passing point is 50% in each midterm exam. The students who do not pass the midterm exams write the exams. The final grade for the course is calculated as a percentage of points earned. The final grade is determined applying the relative ECTS grading scale in accordance with the Rules of the Studying System of the University of Split. Those obtaining passing grades are divided into four subgroups: the best 15% are awarded an excellent grade, the next 35% a very good grade, the following 35% a good grade, and the final 15% a sufficient grade. Students who fail the two exams in the first examination period take the exam in the autumn final examination period. The final exam consists of the material covered in both midterm exams.</td></tr>
<tr><td rowspan="2">Required literature (available in the library and via other media)</td><td colspan="5">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="5">Cotton, D., Falvey, D. I Kent, S.: Market Leader. Intermediate Business English. Longman. 2000.

Kovač, M.M., Sirković, N.: Presentation, Writing and Interpersonal Communication Skills. FESB, 2014.</td><td>20</td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="8"></td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="8">• Evaluation of results in accordance with the above learning outcomes
• Feedback from students via surveys
• Self-evaluation of teachers
• Institutional and non-institutional evaluations</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="8"></td></tr>
</table>

NAME OF THE COURSE	EXPERIMENTAL METHODS IN ENGINEERING						
Code	FESE 16	Year of study	3				
Course teacher	Željko Domazet, Lovre Krstulović-Opara	Credits (ECTS)	4				
Associate teachers	Petra Bagavac	Type of instruction (number of hours)	L	S	AE	LE	DE
			28			28	
Status of the course	Mandatory	Percentage of application of e-learning	40%				

COURSE DESCRIPTION

Course objectives	Training students for: - Proper and optimal dimensioning of structural and machinery components subjected to loadings during exploitation. - Estimating real exploitation loading by means of strain gauge measurements and infrared thermography. - Detection of cracks by means of ultrasound testing, penetrant testing and magnetic particles inspection.		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Explain main experimental methods in engineering. - Describe strain gauge method. - Describe infrared thermography as NDT method. - Describe ultrasound method in detection of cracks. - Describe penetrant testing in detection of cracks. - Describe magnetic particles inspection of cracks.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Introduction to experimental methods in engineering.	2	
	Overview of measurement techniques in engineering.	2	
	Materials response under in-service loading conditions.	2	
	Types and characteristics of structural loads (actions on structures).	2	
	Influences on life time predictions of materials and components.	2	
	Concepts and methods of fatigue strength.	2	
	Fracture mechanics.	2	
	Stress concentration.	2	
	Design of components and structures.	2	
	Case studies.	2	
	Penetrant testing method.	2	
	Magnetic particles inspection.	2	
	Infrared thermography and thermal stress analysis.	2	
	List of laboratory or design exercises		LE hours
	Introduction to experimental testing equipment of Structural laboratory.		1
	Measurement on servo-hydraulic dynamic testing machine.		2
	Strain gauge testing – theory and application of strain gauges.		10
	Penetrant testing and magnetic particles inspection..		2
	Basics of infrared thermography. Thermoelasticity, pulsed thermography and Risitano method.		4

	Thermoelasticity, pulsed thermography and Risitano method.	4
	Ultrasound testing.	3

Format of instruction	☒ lectures ☒ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	2	Research		Practical training	
	Experimental work		Report		Individual work	1
	Essay		Seminar essay	1	(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	Evaluation of gained knowledge in form of two colloquiums. Maximal score is 100 points, while minimum is passing of exam is with 50 points. Exam: individual, theoretical. Mode of exam: written form.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Grubišić, V., Domazet, Ž.: Fatigue strength of materials (in Croatian)		E-learning
	Additional course materials		E-learning

Optional literature (at the time of submission of study programme proposal)	- K. Hoffmann: An Introduction to Measurements Using Strain Gauges, Hottinger Baldwin Messtechnik GmbH, Darmstadt - M. Andrassy, I. Borbas, S. Švaić: Osnove termografije s primjenom, Kigen, Zagreb, 2008.
Quality assurance methods that ensure the acquisition of exit competences	- Student evaluations - Registering student's attendance to course
Other (as the proposer wishes to add)	

NAME OF THE COURSE	Finance						
Code	FEEE09	Year of study	3				
Course teacher	Josip Visković, PhD – Assistant professor	Credits (ECTS)	4				
Associate teachers		Type of instruction (number of hours)	L	S	AE	LE	DE
			30		30		
Status of the course	Mandatory	Percentage of application of e-learning	20				

COURSE DESCRIPTION

Course objectives	Training students for understanding of monetary categories, financial institutions, markets, monetary and fiscal policies, tax system and financial management.		
Course enrolment requirements and entry competences required for the course	Knowledge of the basic concepts of finance.		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: 1. Identify, analyse and relate monetary categories, institutions and policies. 2. Identify and classify basic monetary aggregates - money and credit 3. Relate the role of money at the national and international level – exchange rate regime 4. Categorize and analyse the role of financial intermediaries in the contemporary economy 6. Analyse monetary and fiscal policy and their instruments 7. Identify the company's position in a given financial national and international environment		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Introduction to the financial system and financial phenomenology	2	2
	Money and functions of money – measuring monetary aggregates	2	2
	Foreign exchange market and foreign exchange rate	2	2
	Fundamental economic relations and exchange rate determination	2	2
	Monetary - credit multiplication; credit and its role in economy; short-term and long-term loans	2	2
	Theories and practical aspects of interest rates	2	2
	Financial intermediaries - Financial institutions and financial markets	8	8
	Monetary policy and its instruments	2	2
	Monetary policy and its instruments	2	2
	Basics of the tax system	2	2
	Basics of financial management – short-term and long-term financing and investments	4	4
	List of laboratory or design exercises		LE or DE hours

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	0,4	Research		Practical training	
	Experimental work		Report		Individual assignments	1,2*
	Essay		Seminar essay		(Other)	
	Tests	2,4*	Oral exam		(Other)	
	Written exam	2,4*	Project		(Other)	

Grading and evaluating student work in class and at the final exam	Two tests or final written exam. *Two tests replace the final written exam. ** During several exercises students work out case studies related to the lecture topic.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Nikolić, N; Pečarić, M.: Uvod u financije, Naklada Ekonomski fakultet Sveučilišta u Splitu, Split, 2012.	10	
	Nikolić, N; Počela javnog financiranja, Split, 1999.	5	
	Vidučić, Lj.: Financisjki management, 2012, RRiF	10	
	Notes and presentations from lectures and exercises		

Optional literature (at the time of submission of study programme proposal)	Madura, J.: International Corporate Finance, 2008., Thomson South-Western Lovrinović, I., Ivanov, M.: Monetarna politika, RRiF, 2009.
Quality assurance methods that ensure the acquisition of exit competences	• Monitoring attendance and students performance (teacher) • Monitoring of teaching (Vice-Dean) • Analysis of student success in all subjects of study (Vice-Dean) • Student survey on the quality of teachers and teaching for each course of study (University of Split, Centre for Quality Improvement) • By tests organized by the subject teacher all the course outcomes are checked. Periodically monitoring the exam contents is used to determine the adequacy of the checking learning outcomes modus (Vice-Dean).
Other (as the	-

proposer wishes to add)	

NAME OF THE COURSE	FINAL THESIS									
Code	FEXX01	Year of study	3							
Course teacher		Credits (ECTS)	12							
Associate teachers		Type of instruction (number of hours)	L	S	AE	LE	DE			
Status of the course	Obligatory	Percentage of application of e-learning								
COURSE DESCRIPTION										
Course objectives	Training students for: - consolidating theoretical knowledge and practical skills in solving highly complex engineering problems - being independent in solving problems under the given conditions - writing and presenting the project results									
Course enrolment requirements and entry competences required for the course	Acquired 120 ECTS credits									
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - consolidate theoretical knowledge and practical skills in solving problems - use literature, databases and other sources of information - select appropriate methods and procedures for solving practical problems - apply technical knowledge and skills to effectively solve engineering problems - give public presentation, to prepare written report and present project results									
Course content broken down in detail by weekly class schedule (syllabus)	Final thesis is the independent work of the student produced according to the task and instructions given by the supervisor									
Format of instruction	☐ lectures ☐ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work		☐ independent assignments ☐ multimedia ☐ laboratory ☒ work with mentor ☐ (other)							
Student responsibilities	Independent work									
Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance		Research		Practical training					
	Experimental work		Report		Individual work	12				
	Essay		Seminar essay		(Other)					
	Tests		Oral exam		(Other)					
	Written exam		Project		(Other)					
Grading and evaluating student work in class and at the final exam	Final thesis is evaluated by the supervisor based on the student's achievements during the process of the final thesis production and on written and oral presentation.									
Required literature	**Title**				**Number of**	**Availability via**				

(available in the library and via other media)		**copies in the library**	**other media**
	Literature depends on the given problem. The literature list may be given by the supervisor or the student should find the appropriate literature to help solve the problem.		
Optional literature (at the time of submission of study programme proposal)			
Quality assurance methods that ensure the acquisition of exit competences	- Self-evaluation of teachers - Student survey of the whole study programme		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	FLUID MECHANICS						
Code	FESE07	Year of study	3.				
Course teacher	Branko Klarin, Ph. D., Full Professor	Credits (ECTS)	6				
Associate teachers	Maja Zore, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			45	0	30	15	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Training students for: - understanding and application of basic principles and laws of fluid mechanics, - recognition of problem nature and selection of proper relations for their solving, - selecting analysis methods and solving simple problems.		
Course enrolment requirements and entry competences required for the course	Physics		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - define the fundamental fluid phenomena, inner and outer forces and stresses in fluids, - recognize and solve forces on general surfaces, - recognize conditions and quote parameters of relative stillness and solve problems, - apply Euler equations of fluid statics, Bernoulli equation, momentum equation and continuity, - explain boundary layer formation, - calculate flow losses in pipes, - recognize hydro- and aerodynamic forces on bodies, - choose and apply similarity criteria.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Introduction to fluid mechanics. Fluid properties. Lagrange and Euler coordinat system.	3	2
	Apecific pressure in different directions. Euler equilibrium conditions. Fluid in gravity field.	3	2
	Forces on flat and curved surfaces. Basics of floating and stability.	3	2
	Relative stillness – translation and rotation.	3	2
	Dynamics of ideal fluid – Euler variables. Streamlines and flow field. The equation of continuity. Bernoulli 's equation. Venturi 's tube.	3	2
	Leakage from container and underwater leakage. The occurrence of cavitation.	3	2
	The momentum equation.	3	2
	Real fluid dynamics - flow of viscous liquids. Stresses in the fluid - the role of the Navier-Stokes equations.	3	2
	Laminar and turbulent flow. The term of the boundary layer.	3	2
	Opposing body - friction and resistance form. Hydro- and airfoils. Wings and flow channel.	3	2
	The tube flow resistance and losses. Nikuradze's experiments and Moody's diagram. Liquid flow in pipes of various	3	2

	diameters and under pressure.		
	The concept of dimensional analysis and similarity flow. Criteria similarity: Newton's, Frude's, Reynolds's, Euler's and Mach's number.	3	2
	Introduction to the working principle and elements of turbomachinery. The occurrence of water hammer.	3	2
	List of laboratory or design exercises		LE or DE hours
	Properties of fluids		2
	Leaking		2
	Calculation of hydrodynamic boundary layer		2
	Air flow measurements		2
	Demonstration (fieldwork) - wind power, hydroelectric power plants		7

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☒ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	3,5	Research		Practical training	
	Experimental work		Report		Individual work	
	Essay		Seminar essay		Laboratory exercises	1,5
	Tests	1	Oral exam		Preparation for laboratory exercises	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. Each midterm test consists of three numerical problems and five theoretical questions. In the final exams students that did not pass the midterm exams take part. The final exams are carried out as written tests, both numerical and theoretical questions. The requirement for passing grade is the positive grade of numerical (obligatory) and theoretical grade. Grade (in percentage) is formed according to the formula: Grade(%) = 0,5 (M1 + M2) where in percentage: • M1, M2 – test results.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	B. Klarin: Mehanika fluida, autorizirana predavanja, FESB		e-learning portal
	Lj. Pilić-Rabadan, Mehanika fluida, FESB Split, 1992.	10	
	M. Pečornik, Tehnička mehanika fluida, Sveučilište u Rijeci, Rijeka, 1985.	10	

Optional literature (at the time of submission of study programme proposal)	- Kuethe, A.M.; Chow, C-Y.: Foundations of Aerodynamics, Wiley, 1986. - Fox, R.W.; McDonald, A.T. Introducing to Fluid Mechanics, Wiley, 1994.
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations
Other (as the proposer wishes to add)	- Feedback from graduate students about the course relevance

NAME OF THE COURSE	FUNDAMENTALS OF MICROECONOMICS						
Code	FEEE05	Year of study	2				
Course teacher	Ivan Pavić, Full Professor Maja Pervan, Full Professor	Credits (ECTS)	6				
Associate teachers	Josipa Višić, Assistant Professor	Type of instruction (number of hours)	L	S	AE	LE	DE
Status of the course	Obligatory	Percentage of application of e-learning	5%				

COURSE DESCRIPTION

Course objectives	Acquiring knowledge and skills for identifying and quantifying different determinants of supply and demand, elasticity assessment, analysis of firm's production and costs, as well as making decisions on prices and quantities in specific market structures.
Course enrolment requirements and entry competences required for the course	-
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: 1. Identify the determinants of supply and demand 2. Analyze the way in which market mechanisms affect the market equilibrium 3. Analyze the influence of different types of elasticity on demand for products 4. Ensure adequate pricing policy based on the price elasticity 5. Examine the influence of changes in production factors on the total, average and marginal productivity 6. Identify a combination of production inputs which minimizes the cost of production 7. Calculate the break-even point in changing market conditions 8. Classify criteria for distinguishing between market structures 9. Define quantities and prices that maximize firm's profits in different market structures

Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Demand. The concept and the law of demand. Individual and market demand. Determinants of demand.	2	2
	Supply. The concept and the law of supply. Changes in supply and quantity supplied. Determinants of supply.	2	2
	Market Equilibrium. Changes in supply and demand. Market Equilibrium. The equilibrium in real life. Market equilibrium and taxes.	2	2
	Elasticity. The concept of elasticity. Price elasticity of demand. Price elasticity of demand and total revenue.	2	2
	The income elasticity of demand. Cross-price elasticity of demand. Price elasticity of supply.	2	2
	Production. Basic concepts of production. Production in the short term. Total, average and marginal productivity. Increasing, constant and diminishing marginal returns. The stages of production functions.	2	2
	Production in the long run. The production isoquant. Rational production area.	2	2

	The optimal combination of inputs. Expansion path. The production of multiple products.	2	2
	Costs. The basic concepts of costs.	2	2
	Costs in the short run. Total, average and marginal cost in the short run. The cost curve in the short run. Relationship between production and costs in the short run.	2	2
	Costs in the long run. Average and marginal cost in the long run. Economies and diseconomies of scope. The break-even analysis.	2	2
	Perfect competition. Concept and characteristics of perfect competition. The equilibrium of the company in the short and long run.	2	2
	Monopoly. Concept and characteristics of a monopoly. Price discrimination. The equilibrium of the company in the short and long run.	2	2
	Monopolistic competition. The equilibrium of the company in the short and long run. Measurement of monopoly power. Comparison of monopolistic competition with other market structures.	2	2
	Oligopoly. Behavior of companies in oligopoly. Models of price stability in the oligopolistic markets. Models with coordinated actions.	2	2
	List of laboratory or design exercises		LE or DE hours

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	A student must attend min. 50% of lectures and exercises in order to access final exam.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance		Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests	5*	Oral exam		(Other)	
	Written exam	5*	Project		(Other)	

Grading and evaluating student work in class and at the final exam	*During the semester there will be two colloquiums. To obtain a final grade without exams, on each colloquium a student must solve at least 55% of the tasks / case studies as well as two out of the three theoretical questions. The final grade is derived as an arithmetic mean of the score achieved in the first and second colloquium. Students who do not pass the colloquiums take the exam in regular exam terms. The exam consists of two parts. In the first part of the exam, a student has to

<table>
<tr><td></td><td colspan="3">accurately and completely solve 55% of the tasks / case studies. Positive mark achieved in the first part of the exam also represents a condition of access to the second (theoretical) part of exam, where the student has to solve minimally two out of the three theoretical questions</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>Pavić, I.,"Mikroekonomija - teorija i praksa", Ekonomski fakultet Split, 2015.</td><td></td><td></td></tr>
<tr><td>Pervan, M., "Mikroekonomija - zbirka zadataka", treće izdanje, Ekonomski fakultet Split, 2013.</td><td></td><td></td></tr>
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<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">-</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">-</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
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NAME OF THE COURSE	INDUSTRIAL PROPERTY						
Code	FETE12	Year of study	3				
Course teacher	Jozo Čizmić, Ph.D., Full Professor	Credits (ECTS)	4				
Associate teachers		Type of instruction (number of hours)	L	S	AE	LE	DE
			45	15	0	0	0
Status of the course	Elective	Percentage of application of e-learning					

COURSE DESCRIPTION

Course objectives	Upon completion of lectures, students will have gained theoretical and practical insights into the industrial property, the area of law that deals with protecting the rights of those who create original works. This subject introduces students to the conceptual framework of industrial property law.		
Course enrolment requirements and entry competences required for the course			
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: 1. students will identify basic terms of industrial property law 2. students will analyze the law applicable to infringement of industrial property rights 3. students will be able to identify, use and appraise research material relevant to the operation and reform of industrial property law 4. students will examine the theories, policies and principles of industrial property regulation in Croatia, including the statutory regimes of patent and trade mark protection, the tort of passing off, the action for misleading and deceptive conduct and the equitable doctrine of breach of confidence. 5. students will analyse the interrelationships between these laws, the effect of international standards and consider topical issues in the field.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	S hours
	Industrial property and Patents	6	2
	Trademarks	6	2
	Trade secret	3	1
	Industrial design	5	1
	Mask works	2	1
	Geographical indication	3	1
	Licensing and Know-How	3	1
	Croatian Industrial property law	3	1
	International convention	3	1
	Patent and Trademarks Attorney	3	1
	Judicial protection of industrial properta	3	1
	The State Intellectual Property Office	2	1
	Inventive activity and technical improvements	3	1
	List of laboratory or design exercises		LE or DE hours

Format of instruction	☐x lectures ☐x seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1,5	Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	1,0	(Other)	
	Tests		Oral exam	1,5	(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	Seminars Oral exam

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Čizmić-Boban-Zlatović: Nove tehnologije, intelektualno vlasništvo i informacijska sigurnost, Split, 2016.		x

Optional literature (at the time of submission of study programme proposal)	-
Quality assurance methods that ensure the acquisition of exit competences	- opinion of students on the quality of teaching through questionnaire survey conducted after lectures. - consultations with students who are attending this course, the worthiness of this subject in their practical work and possible improvements.
Other (as the proposer wishes to add)	

NAME OF THE COURSE	INTRODUCTION TO INFORMATION SYSTEMS						
Code	FESE06	Year of study	3				
Course teacher	Damir Vučina, Ph. D. Full Professor	Credits (ECTS)	4				
Associate teachers	Igor Pehnec, Ph. D. Teaching assistant Ivo Marinić- Kragić, Teaching assistant Milan Ćurković, Ph. D., Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	15	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION			
Course objectives	Capability of applying computers in building information systems. Acquiring knowledge and application skills: HTML, basic terms in databases, basics of SQL, script languages, active web pages, IS		
Course enrolment requirements and entry competences required for the course	Completed pre-graduate studies which include courses equivalent to Computer-aided analysis. Competences in basic engineering analysis methods and program development in MATLAB		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	After completing the course, students will be able to: • Describe information systems, specify architecture and functionality, elements, technologies • Develop sets of HTML files for the IS • Develop simple client scripts in Vbscript • Create simple databases • Develop simple SQL queries • Build simple dynamic web pages using ASP		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Introduction. systems, business processes, information processing	2	
	Information systems IS, MIS, elements of IS	2	
	Information systems IS, functional specifications of IS, architecture of IS	2	
	Infrastructure and devices for the IS, protocols	2	
	Internet, services, www	2	
	Development of content for the web	2	
	Basics of HTML	2	
	Basics of programming, basic elements of programs	2	
	Script languages, Vbscript	2	
	Databases: basic terms and elements of design	2	
	First midterm exam		
	Databases: basics of SQL, IS and databases	2	
	Simple active pages, ASP. Basic concepts of web applications	2	
	Integration of IS elements	2	
	Second midterm exam		
	List of laboratory exercises		LE hours

	Information systems IS modeling, functional specifications of IS	1
	Develop sets of HTML files for the IS	2
	Scripting and Vbscript examples	2
	Databases, modelling, normalization	2
	SQL	2
	Active pages, ASP, applications	2
	Integration of IS	2

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	3	Research		Practical training	
	Experimental work		Report		Individual work	1
	Essay		Seminar essay		Laboratory exercises	
	Tests		Oral exam		Preparation for laboratory exercises	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. Each midterm test consists of respective theoretical questions and numerical problems. The final tests consist of overall theoretical questions and numerical problems. In the final exams, students that did not pass the midterm exams take part. The midterm and final exams are carried out as written tests. The requirement for passing grade is the positive assessment of laboratory exercises and 50 % points on each midterm exam or the final exam. Grade (in percentage) is formed according to the formula: Grade(%) = 0,5 (M1 + M2) the activities in percentage: • M1, M2 – test results.

	Title	**Number of copies in the library**	**Availability via other media**
Required literature (available in the library and via other media)	D. Vučina, M. Šušnjar, M. Uvodić 'Uvod u informacijske sustave', internal material		
	Steven Alter, 'Information Systems: Foundation of E-Business		
	Ch J. A. O'Brien, 'Management Information Systems', Irwin Inc.		
	Online skripts: w3schools - 'HTML', 'VBScript', 'ASP', 'SQL'		

Optional literature (at the time of submission of study programme proposal)	• NCSA, 'A Beginner's Guide to HTML', ili ' • HTML - An Interactive Tutorial for Beginners' • MS VBScript Tuturial • MS ASP pages R. Leinecker, 'Using ASP.net', Que, 2002
Quality assurance	- Evaluation of results in accordance with the above learning outcomes

methods that ensure the acquisition of exit competences	- Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations
Other (as the proposer wishes to add)	

NAME OF THE COURSE	INTRODUCTION TO PUBLIC SPEAKING					
Code	FEOC04	Year of study	3			
Course teacher	Mirjana M. Kovač Ph.D., Assistant Professor	Credits (ECTS)	4			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			0	30	0	0
Status of the course	Elective	Percentage of application of e-learning				

COURSE DESCRIPTION

Course objectives	• understand the basic concepts related to verbal and nonverbal communication, as well as the factors that influence these concepts; • develop the skills of presentation planning, presentation structure, and presentation performance in the Croatian language; • organize speech information in a chronological order.
Course enrolment requirements and entry competences required for the course	None.
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: 1. organize speech information in a chronological order; 2. use different types of public speaking; 3. give a persuasive presentation of ideas in front of an audience; 4. use notes for communication.

Course content broken down in detail by weekly class schedule (syllabus)	Course content	L/S
	Definitions of communication; Overview of the theory of communication; Cross-cultural communication	0/2
	Verbal and nonverbal communication	0/2
	Questioning as a communication skill	0/2
	Active listening and Barriers to active listening	0/2
	Speech preparation	0/2
	Standard language and modal expressions	0/2
	Presentation skills	0/2
	Rhetorical figures of speech	0/2
	Public speaking fear	0/2
	Interpretative reading	0/2
	Taking notes	0/2
	Speech disfluencies	0/2
	Pronunciation speech exercises	0/2

Format of instruction		
	☐ lectures ☒ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Active participation in all activities: lectures, consultations, searching the literature, individual work.	

Screening student work *(name the*	Class attendance	1,6	Research		Practical training	

proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Experimental work		Report		Individual work	1,6
	Essay		Seminar essay	0,5	(Other)	
	Midterm exam	0,2	Oral exam		(Other)	
	Written exam	0,1	Project		(Other)	

Grading and evaluating student work in class and at the final exam	The final grade is determined as the average of: • assessment of oral presentation and peer assessment of oral presentation; • assessment of written communication skills, written and oral assessment. There are two midterm exams and two examination periods. The first midterm exam is after 7 weeks of lecturing, and the second one is after the next 6 weeks. The lowest passing point is 50% in each midterm exam. The students who do not pass the midterm exams write the exams. The final grade for the course is calculated as a percentage of points earned. The final grade is determined applying the absolute ECTS grading system in accordance with the Rules of the Studying System of the University of Split. At the end of the semester the grades are averaged to form a grade Point Average, according to this scale: 50% - 61% - sufficient (2), 62% - 74%- good (3), 75% - 87% - very good (4), 88% - 100% - excellent (5). Students who fail the two exams in the first examination period take the exam in the autumn final examination period. The final exam consists of the material covered in both midterm exams.

	Title	**Number of copies in the library**	**Availability via other media**
Required literature (available in the library and via other media)	Ivo Škarić. Temeljci suvremenog govorništva, Zagreb: Školska knjiga.2000.		
Optional literature (at the time of submission of study programme proposal)			
Quality assurance methods that ensure the acquisition of exit competences	• Evaluation of results in accordance with the above learning outcomes • Feedback from students via surveys • Self-evaluation of teachers • Institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	MACHINE ELEMENTS							
Code	FESE03	Year of study	3					
Course teacher	Srdjan Podrug, Ph.D., Associate Professor	Credits (ECTS)	6					
Associate teachers	Vjekoslav Tvrdić, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE	
			45	0	0	0	30	
Status of the course	Obligatory	Percentage of application of e-learning	0					

COURSE DESCRIPTION		
Course objectives	Training students for: - understanding of machine elements operation principles and designing basis.	
Course enrolment requirements and entry competences required for the course	Engineering graphics 1 and Engineering graphics 2	
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Identify the loads imposed on the machine elements. - Evaluate and apply the necessary safety factor. - Select the criteria for sizing and design of machine elements. - Select machine elements based on the criteria. - Compare fasteners, springs and shafts. - Compare power transmissions.	
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours
Course content broken down in detail by weekly class schedule (syllabus)	Conception and classification of machine elements. Load, stress and strain. Safety factor and allowable stress. Static strength.	3
	Fatigue strength. S-N (Wohler) diagram. Fatigue (Smith) diagram.	3
	Welded joints: conception, procedures, types, labeling, quality, design, calculation	3
	Threaded fasteners: conception and classification, Standard thread forms, materials. Design of the threaded fasteners. Forces and torque acting in bolted joints.	3
	Strength calculation of the threaded fasteners. Pin bolts and dowel pins. Spline shaft connections. Cylindrical and tapered shaft connections.	3
	Springs: classification, stiffness, work and calculation.	3
	Shafts: conception, materials, design, dimensioning, strength calculation.	3
	Bearings. The theory of hydrodynamic lubrication. Journal slider bearings. Design and calculation of journal slider bearings. Materials for bearings. Thrust slider bearings.	3
	Roller bearings. Types and labels. Dynamic and static load rating. Couplings and clutches. Classification. Rigid couplings. Flexible couplings. Friction clutches.	3
	Power transmissions and mechanical drives. Classification. Features and classification of gear drives.	3
	Main rule of toothing. Geometry of cylindrical gears.	3

	Gear loadings. Pitting load capacity. Tooth root load capacity.	3
	Bevel gears. Worm gear drives. Belt transmissions. Chain transmissions.	3
	List of laboratory or design exercises	DE hours
	Design of the tapered shaft connection and of the welded joint	13
	Design of the shaft	13

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Course attendance and activity (lectures, exercises), machine elements design, studying.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	3	Research		Practical training	
	Experimental work		Report		Individual work	3
	Essay		Seminar essay		(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester, there will be two mid-term exams (tests). The first mid-term, after 7 weeks of classes, and the second after 13 weeks of classes. In the final exams students that did not pass the midterm exams take part. Grade (%) = 0,3K + 0,35(M1 + M2) K - rating from design exercises expressed in percentage, M1, M2 - points of first mid-term exams expressed in percentage, mid-term exams consist of theoretical questions. The requirement for a positive evaluation is the positive assessment of design exercises K >= 45%, the first mid-term M1 >= 45%, and the second mid-term M2 >= 45%. The final grade is determined as follows: Percentage - Rating 50% to 61% - Sufficient (2) 62% to 74% - Good (3) 75% to 87% - Very good (4) 88% 100% - Excellent (5) Students who do not get positive evaluation through mid-term exams take written numerical and theoretical exam.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Podrug, S.: Machine Elements – course materials (in Croatian)		e-learning portal
	Jelaska, D., Podrug, S: Design of the Tapered Press Connection and of the Welded Joint (Directions), FESB, Split 2003. (in Croatian)		e-learning portal
	Jelaska, D., Piršić, T., Podrug S.: Shaft Design (Directions), FESB, Split 2007. (in Croatian)		e-learning portal

Optional literature (at the time of submission of study programme	- Jelaska, D: Machine Elements, I part, University of Split, 2007. (in Croatian) - Jelaska, D: Gears and Gear Drives, University of Split, 2011. (in Croatian) - Decker, K.H.: Machine Elements, Tehnička knjiga, Zagreb, 2006. (in Croatian)

proposal)	
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations
Other (as the proposer wishes to add)	

<table>
<tr><th>NAME OF THE COURSE</th><th colspan="6">MACROECONOMICS</th></tr>
<tr><td>Code</td><td>FEEE04</td><td>Year of study</td><td colspan="5">2</td></tr>
<tr><td>Course teacher</td><td>Petar Filipić, Ph.D., Full Professor</td><td>Credits (ECTS)</td><td colspan="5">6</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Lena Malešević Perović, Ph.D., Associate Professor, Bruno Ćorić, Ph.D., Assistant Professor</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>AE</td><td>LE</td><td>DE</td></tr>
<tr><td>30</td><td>0</td><td>30</td><td>0</td><td>0</td></tr>
<tr><td>Status of the course</td><td>obligatory</td><td>Percentage of application of e-learning</td><td colspan="5"></td></tr>
<tr><th colspan="7">COURSE DESCRIPTION</th></tr>
<tr><td>Course objectives</td><td colspan="6">To enable students to use basic macroeconomic models (input-output and AS-AD model), and apply them in the analysis of the impact of a certain economic policy on GDP and prices, as well as discuss the issues of inflation, unemployment and exchange rates.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6"></td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">1. To identify key elements of the System of national accounts
2. To analyse direct production interrelationships, import dependence and the impact of final consumption on GDP within input-output model
3. To calculate the impact of a change in each of the aggregate demand components on GDP and prices in the short run using AS-AD model
4. To identify key theories of consumption and investment
5. To identify causes, costs and consequences of inflation and unemployment.</td></tr>
<tr><td rowspan="13">Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="5">Course content</td><td>L hours</td></tr>
<tr><td colspan="5">1. Introduction to macroeconomics: What do macroeconomists study?</td><td>2</td></tr>
<tr><td colspan="5">2. Macroeconomic statistics: System of national accounts: The income account</td><td>2</td></tr>
<tr><td colspan="5">3. System of national accounts: The financial account</td><td>2</td></tr>
<tr><td colspan="5">4. System of national accounts: Input-output tables</td><td>2</td></tr>
<tr><td colspan="5">5. Measuring economic activity: GDP, price indices, unemployment and trade balance</td><td>2</td></tr>
<tr><td colspan="5">6. Determinants of the supply of goods and services</td><td>2</td></tr>
<tr><td colspan="5">7. Determinants of the demand of goods and services</td><td>2</td></tr>
<tr><td colspan="5">8. Goods market equilibrium: AS-AD model</td><td>2</td></tr>
<tr><td colspan="5">9. Consumption theories: Keynes, Fisher, Modigliani, Friedman.</td><td>2</td></tr>
<tr><td colspan="5">10. Introduction to fiscal policy: government expenditures and revenues; budget multiplier</td><td>2</td></tr>
<tr><td colspan="5">11. Investment: types, determinants, motives, theories</td><td>2</td></tr>
<tr><td colspan="5">12. Inflation: types, causes and costs</td><td>2</td></tr>
</table>

	13. Unemployment: types and causes. Natural rate of unemployment.	2
	14. Exchange rates: types. Croatian kuna exchange rate.	2
	15. Introduction to growth theories	2
	Course content	E hours
	1. Introduction to this course: student obligations, literature, exams.	2
	2. Economic models in general. Introduction to input-output model.	2
	3. Structure of the input-output model.	2
	4. An analysis of direct production interrelationships, technical coefficient, matrix multiplier, the impact of final consumption on production. Exercises.	2
	5. An analysis of the impact of certain components of final consumption on GDP within input-output model. An analysis of import dependence. Exercises.	2
	6. An analysis of the impact of certain components of final consumption on production, GDP and imports within input-output model. Exercises.	2
	7. Four main goals of economic policy: an analysis of GDP, inflation, unemployment and trade balance.	2
	8. Quantitative macroeconomic analysis: formalisation of the AS-AD model.	2
	9. Consumption theories: implications for average propensity to consume in the short and long run.	2
	10. An analysis of the main types of government expenditures and revenues, and their impact on the economy.	2
	11. Investment: volatility, investment theories, methods to choose profitable projects.	2
	12. Inflation: types, costs, benefits. Phillips curve in the short and long run.	2
	13. Unemployment: types (structural, frictional and cyclical), measures to reduce unemployment.	2
	14. An analysis of different types of exchange rates – real life examples.	2
	15. Key factors of long-run growth.	2

Format of instruction	x lectures ☐ seminars and workshops x exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Students are obliged to attend 10 out of 15 lectures. This is the prerequisite for being able to take exams.	

Screening student work *(name the proportion of ECTS credits for each*	Class attendance		Research		Practical training	
	Experimental work		Report		(Other)	

activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Essay		Seminar essay		(Other)	
	Tests	2*	Oral exam	2	(Other)	
	Written exam	2*	Project		(Other)	

Grading and evaluating student work in class and at the final exam	Attending 10 out of 15 lectures is a prerequisite for taking the exam. Two tests are organized during the year, whereby the second one can be taken only under the condition that the first one is passed (50%). Two tests are equivalent to the written exam. After passing either tests or written exam, a student can take the oral exam. **Grades (1-5):** pass (2) 50–64% good (3) 65-74% very good (4) 75-89% excellent (5) 90-100%.

	Title	Number of copies in the library	Availability via other media
Required literature (available in the library and via other media)	Blanchard, O. (2000): Macroeconomics, New Jersey, Prentice Hall	2	
	Mankiw, G. (2008): Macroeconomics, New York, Worth Publishers	4	

Optional literature (at the time of submission of study programme proposal)	
Quality assurance methods that ensure the acquisition of exit competences	
Other (as the proposer wishes to add)	

<table>
<tr><td>NAME OF THE COURSE</td><td colspan="6">MANAGEMENT</td></tr>
<tr><td>Code</td><td>FEEE12</td><td>Year of study</td><td colspan="5">3</td></tr>
<tr><td>Course teacher</td><td>Nikša Alfirević, Ph.D., Full Professor</td><td>Credits (ECTS)</td><td colspan="5">5</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Željko Mateljak, Ph. D, Teaching assistant
Anita Talaja, Ph. D., Teaching assistant</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>AE</td><td>LE</td><td>DE</td></tr>
<tr><td>30</td><td>0</td><td>30</td><td>0</td><td>0</td></tr>
<tr><td>Status of the course</td><td>Obligatory</td><td>Percentage of application of e-learning</td><td colspan="5">0%</td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="6">After completing this course, students will be able to use the fundamental concepts and functions of management (planning, organizing, human resource management and control).</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">None</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">The overall learning outcome:
Identify and analyze managerial processes and apply managerial activities

Specific learning outcomes:
1. Interpret the concepts of managers’ functions, activities and roles, managerial skills, external and internal environment of an organization, relationship between organization and its environment.
2. Apply managerial ethics and corporate social responsibility.
3. Differentiate between fundamental determinants of managerial planning: definition and scope of managerial planning, planning levels, stages of managerial planning, time frames and planning responsibilities.
4. Identify strategy and strategic planning: define strategy and strategic management, recognize the decision-making situations, models, processes and techniques, as well as understand the group decision-making.
5. Distinguish and use the concept and techniques of business organization, as well as develop organizational structures.
6. Use the concepts of employee planning, recruitment, selection, as well as training and development.
7. Evaluate employee performance and understand compensation management.
8. Explain the concepts of leadership and its models, motivation, motivation theories, job redesign, and empowerment.
9. Understand the interpersonal processes, including the formation and behaviour in groups, interpersonal and group conflict, communication in organizations.
10. Use the concepts of managerial control and control process, control systems and levels, as well as performance indicators, methods and techniques.</td></tr>
<tr><td rowspan="5">Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="5">Course content</td><td>L
Hours</td></tr>
<tr><td colspan="5">Introduction to management: managers' functions, activities and roles. Managerial skills. Management as a skill and science.</td><td>2</td></tr>
<tr><td colspan="5">Environment of an organization: definition, external and internal environment. Relationship between the organization and its environment.</td><td>2</td></tr>
<tr><td colspan="5">Ethics and social responsibility of the management.</td><td>2</td></tr>
<tr><td colspan="5">Fundamental determinants of managerial planning. Definition</td><td>2</td></tr>
</table>

	and scope of managerial planning. Planning levels. Stages of managerial planning. Time frames and planning responsibilities.	
	Organizational strategy and strategic planning. Strategic management.	2
	Managerial decision-making. Definitions, models, stages and tools for decision-making. Groups in decision-making. Decision Support Systems (DSS).	2
	Fundamentals of organizing. Organizational structure. Internal economic relationships. Fundamentals of corporate governance.	2
	Forms of organizational structure. Factors affecting the choice of organizational structure. Models of organizational structure selection.	2
	Human resources management. Planning, recruiting and selection of human resources.	2
	Performance review. Definition and characteristics of different forms of compensation. Compensation management.	2
	Leadership. Definition, models, characteristics. Contemporary leadership.	2
	Motivation: definition and theoretical approaches. Redesigning individual jobs for motivation. Empowerment and other contemporary motivational programs.	2
	Interpersonal processes. Groups. Interpersonal and group conflict. Communication in organizations.	2
	Fundamentals of managerial controlling. Definition and stages of controlling. Levels of control. Tools and systems for managerial control. Performance indicators.	2
	Tools and methods for managerial control. Financial control. Control of operations, marketing and human resources.	2
	Course content	AE hours
	Managerial activities, functions, skills and roles.	2
	External and internal organizational environment.	2
	Ethics and social responsibility of the management.	2
	Managerial planning.	2
	Strategy and strategic management.	2
	Quantitative tools for managerial decision-making.	2
	Division of labour. Specialization.	2
	Organizational charts (VISIO).	2
	Planning human resources.	2
	Employee compensation.	2
	Leadership styles.	2
	Employee motivation and empowerment.	2
	Communication and conflicts in organizations.	2
	Controlling in management.	2
	Budget as a controlling tool.	2

Format of instruction	**x lectures** **x seminars and workshops** **x exercises** ☐ *on line* in entirety ☐ partial e-learning ☐ field work	**x independent assignments** ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Student has to participate in classes and individual assignments. Requirement for taking the exam is 70% of class attendance.	

Screening student work *(name the*	Class attendance	1 ECTS	Research		Practical training	

proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Experimental work		Report		Individual assignments	2 ECTS*
	Essay		Seminar essay		(Other)	
	Tests	3 ECTS**	Oral exam	3 ECTS**	(Other)	
	Written exam	2 ECTS*	Project		(Other)	
Grading and evaluating student work in class and at the final exam	* Individual assignments or case studies are performed during the exercises and can be substitute for the written exam. ** There will be two tests during the semester. To participate in the second test, student has to pass the first test. These tests can substitute oral exam.					

	Title	**Number of copies in the library**	**Availability via other media**
Required literature (available in the library and via other media)	Buble, M.: Management, Faculty of Economics Split, 2008. Robbins, S. P.; Coulter, M.: Management (any edition from 9th Ed. to the 12th Ed.), Pearson Education, Harlow		
Optional literature (at the time of submission of study programme proposal)			
Quality assurance methods that ensure the acquisition of exit competences	• Monitoring student's class attendance (teacher) • Class quality supervisions (Vice-Dean) • Analysis of student success (Vice-Dean) • Student survey on the quality of teachers and teaching (University of Split, Centre for Quality Improvement) • Final exam is relevant for the assessment of course outcomes. The content of exam is reassessed periodically in order to assure fit with course outcomes.		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	MATERIALS 1						
Code	FETE 04	Year of study	1				
Course teacher	Nedjelko Mišina, Ph. D., Full Professor Dražen Živković, Ph. D., Full Professor	Credits (ECTS)	4				
Associate teachers	Nikša Čatipović, Teaching assistant Zvonimir Dadić, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	30	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	- Present basic knowledge about material structures, - Introduce students with mechanical properties and their relationship to the structure of the material. - Explain the mechanical properties testing, both to materials and completed construction, - Provide knowledge about basic methods of detection of errors in materials and metal structures. - Present basic alloys phase diagrams, especially Fe - C alloys phase diagrams, as well as the properties of iron alloys
Course enrolment requirements and entry competences required for the course	None
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Analyze the processes of crystallization and the specifics of metastable and stable crystallization of Fe-C alloy - Explain the second test procedures basic mechanical properties of materials - Characterize polymer and composite materials - Analyze properties and areas of application of steel, casting and non-ferrous metals - Use the principles of optical microscopy - Explain methods of testing materials and structures without damage

Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	The types of materials, recognition of materials, atomic structures, atomic bonds	2	0
	Crystal lattice, crystalline lattice inperfections	2	0
	The crystallization process, the rate of crystal formation and crystal growth, resolution (micro and macro), allotrope modification, Curie point	2	0
	The deformation (elastic, plastic), sliding deformation, twins process, speed and degree of deformation, deformation in hot and cold condition, isotropy, anisotropy	2	0
	Alloy cooling curves, Solubility - complete solubility diagram	2	0
	Eutectic phase diagram, Peritectic phase diagram	2	0
	Fe- C alloy phase diagrams	2	0
	First midterm exam		
	Mechanical properties, Tensile strength test	2	0
	Dynamic strength, Hardness test methods	2	0

	Toughness, Creep, Non-destructive material testing (visual, penetrating liquids)	2	0
	Magnetic method testing, Ultrasound testing	2	0
	X and Y-ray testing, Chemical composition examination	2	0
	Steels, Fe casts	2	0
	Second midterm exam		
	List of laboratory or design exercises		LE or DE hours
	The types of materials, recognition of materials,		2
	Pure metal heating and cooling curve		2
	Complete solubility diagram, Allotrope modification		2
	Eutectic phase diagram		2
	Stable Fe-C phase diagram		2
	Metastable Fe-Fe_3C phase diagram, Curie point		2
	Comparison Fe-C – Fe_3C phase diagrams, Metallography of Fe alloys		2
	First midterm exam		
	Mechanical properties, Tensile strength test		2
	Dynamic strength testing, Toughness testing, Sparks testing		2
	Hardness testing (Brinell, Vickers, Rockwell)		2
	Hardness testing (Poldy, Shore, Leeb)		2
	Magnetic method testing, Penetrating liquid testing		2
	Ultrasonic testing, X and Y ray testing		2
	Second midterm exam		

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence in lectures and exercises in the amount of at least 70%. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1,0	Research		Practical training	
	Experimental work		Report		Self-directed learning	2,0
	Essay		Seminar essay		Laboratory exercises	1,0
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester there will be two mid-term exams (tests). The first mid-term, after 7 weeks of classes and the second after the next 6 weeks of classes. At the final exam students have to take part material that did not pass the mid-term. Each test is carried out as written exam lasting 45 minutes. Usually it consists of 10 test questions and the two tasks. The requirements for a positive evaluation are: positive assessment of laboratory exercises and 50% points on each test. The final grade is based on the resulting percentage on mid-term exams. Percentage - Rating 50% to 61% - sufficient (2) 62% to 74% - good (3) 75% to 87% - very good (4) 88% to 100% - excellent (5) Examinations according to the Faculty schedule! The final grade is determined after the second final exam, applying the relative

<table>
<tr><td></td><td colspan="3">ECTS grading system in accordance with the study rules and study system of the University of Split. A group of students who passed the exam is divided into four sub-groups: 15% of the best students are graded excellent, 35% following very good, the next 35% a good grade and the last 15% positive grade. Students who did not pass the exam after two final exams have the last chance to pass exam in the autumn period where they can get a positive grade. Overall material has to be passed at last possible exam. The written exam consists of test with 20 questions and three tasks. The exam lasts 90 minutes.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>N. Mišina, the author's lecture, FESB
D. Živković, the author's lecture, FESB</td><td></td><td>E-learning portal</td></tr>
<tr><td>R. Deželić, Meterijali (I dio), FESB Split, 1998.</td><td>10</td><td></td></tr>
<tr><td>F. Kovačiček, Đ. Španiček, Materijali – osnove znanosti o mmaterijaliam, FSB Zagreb, 2000.</td><td>2</td><td></td></tr>
<tr><td>M. Franz, Svojstav materijala 2005.</td><td>5</td><td></td></tr>
<tr><td>B. Anzulović, Materijali, Split, 1993.</td><td>3</td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">T.Filetin, F.Kovačiček, J. Indof, Svojstva i primijena materijala, FSB Zagreb, 2002.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Evaluation of results in accordance with the above learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers
- Institutional and non-institutional evaluations</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	MATERIALS 2						
Code	FETE 05	Year of study	1				
Course teachers	Nedjeljko Mišina, Ph. D., Full Professor Dražen Živković, Ph. D., Full Professor	Credits (ECTS)	4				
Associate teachers	Nikša Čatipović, Teaching assistant Zvonimir Dadić, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	30	0
Status of the course	Obligatory	Percentage of application of e-learning					

COURSE DESCRIPTION			
Course objectives	Provide an overview and explanation: - Basic principles of heat treatment processing, - Chemical diffusion surface treatment and application of surface protective coating, - Presents the basic methods of mechanical surface protection.		
Course enrolment requirements and entry competences required for the course	Basic knowledge about structure and properties of materials. This knowledge can be obtained in the prerequisite course Materials 1. In order to be able to follow news within this area students have to be fluent in technical English reading.		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Select the appropriate surface heat treatment, - Combine heat treatment procedures, - Compare the surface heat treatment, - Analyze to the basic features of surface heat treatment, - Set priorities to protect the surface, - Propose possible chemical diffusion heat treatment for surface protection		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Introduction; The purpose of the heat treatment; Types of heat treatment	2	0
	Phase transformations during faster cooling of austenite; TTT diagrams for isothermal and continuous cooling	2	0
	Heating devices, Cooling media	2	0
	Heat treatment; Heat treatment of the entire cross-section; Hardening procedures (typically, isothermal)	2	0
	Influential parameters on the results of quenching; Tempering; Tempering of martensite; Tempering of hardened steel	2	0
	Annealing procedures; Recrystallization annealing;	2	0
	Normalization; Softened by annealing; Annealing for tension relaxation	2	0
	First midterm exam		
	High temperature annealing; Homogenization annealing; Aging	2	0
	Heat treatment of the surface layers; Direct surface hardening; Induction hardening and flame tempering	2	0
	Thermo-chemical heat treatment	2	0
	Ntriding; Boroning; Diffusion metallization	2	0
	Hardening by annealing and aging, Heat treatment of aluminium alloys, Steel hardening	2	0
	Heat Treatment of High-Speed Steel	2	0

	Second midterm exam	
	List of laboratory or design exercises	LE hours
	Iron alloy metallography, Steel grades according to HR norms	2
	Non-ferrous metals Metallography, Non-ferrous metals by HR norms	2
	Hardness after quenching	2
	Testing of hardenability by the Grossman method	2
	Grossman task	2
	Testing by the Jominy method of hardenability	2
	Jominy task	2
	First midterm exam	
	TTT - diagram verification, TTT - diagram of the steel Č4731	2
	Tempering	2
	Normalization, Annealing	2
	Hardening of aluminium alloys	2
	Heat-treated steel metallography	2
	Exam preparation	2
	Second midterm exam	

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1,0	Research		Laboratory exercises	1,0
	Experimental work		Report		Self-directed learning	2,0
	Essay		Seminar essay		(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester there will be two mid-term exams (tests). The first mid-term, after 7 weeks of classes and the second after the next 6 weeks of classes. At the final exam students have to take part material that did not pass the mid-term. Each test is carried out as written exam lasting 45 minutes. Usually it consists of 10 test questions and the two tasks. The requirements for a positive evaluation are: positive assessment of laboratory exercises and 50% points on each test. The final grade is based on the resulting percentage on mid-term exams. Percentage - Rating 50% to 61% - sufficient (2) 62% to 74% - good (3) 75% to 87% - very good (4) 88% to 100% - excellent (5) Examinations according to the Faculty schedule! The final grade is determined after the second final exam, applying the relative ECTS grading system in accordance with the study rules and study system of the University of Split. A group of students who passed the exam is divided into four sub-groups: 15% of the best students are graded excellent, 35% following very good, the next 35% a good grade and the last 15% positive grade. Students who did not pass the exam after two final exams have the last chance to pass exam in the autumn period where they can get a positive grade. Overall material has to be

	passed at last possible exam. The written exam consists of test with 20 questions and three tasks. The exam lasts 90 minutes.		
Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	D. Živković, Autorizirana predavanja,		E-learning portal
	R. Deželić, Metali 2, FESB Split, 1998.	10	
	F. Kovačiček, Đ. Španiček, Materijali – osnove znanosti o materijaliam, FSB Zagreb, 2000.	2	
	M. Stupnišek, F.Cajner: Osnove toplinske obrade metala, Sveučilište u zagrebu, FSB, 1996.	5	
Optional literature (at the time of submission of study programme proposal)	G.E. Totten, Steal heat treatment – metallurgy and technologies, Portland, Oregon, USA, 2006		
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	MATHEMATICS 1						
Code	FEME03	Year of study	1				
Course teacher	Ivan Slapničar, Ph.D., Full Professor, Anita Matković, Ph.D., Associate Professor, Josipa Barić, Ph.D., Assistant Professor	Credits (ECTS)	7				
Associate teachers	Ph.D. Nevena Jakovčević Stor, mr. sc. Ivančica Mirošević, Irena Bego, Anita Carević, Marija Čatipović, Lea Dujić, Ivana Grgić, Lana Periša, Marina Mandić, Dajana Radišić, Mirjana Strukan, Stjepan Vedran Vukasović, Vanja Županović	Type of instruction (number of hours)	L	S	AE	LE	DE
			45	0	45	0	0
Status of the course	obligatory	Percentage of application of e-learning	10				

COURSE DESCRIPTION

Course objectives	Training students for: application of mathematical concepts and tools from the area of linear algebra, vector calculus, analytic geometry, diferential calculus, analysis of real functions of real variable, sequences and series of numbers and functions, to analyze and solve engineering and economy problems.		
Course enrolment requirements and entry competences required for the course	Good knowledge of High School mathematics and passed State Exam in Mathematics.		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - state definitions and theorems from the enitre course, - reproduce proofs of basic theorems, - illustrate theorems with examples, - solve systems of linear equations, - apply vector calculus to analytical geometry of space, - interpret derivatives mathematically, geometrically and physically, - analyse functions of one variable, - test convergence of sequences and series of numbers and functions. - approximate function values by use of Taylor's series.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	1. Introduction. Relations. Functions. Sets of numbers, complex numbers, trigonometric form of complex number, Moivre formulas.	3	3
	2. Matrices. Basic operations with matrices. Matrix formulation of system of linear equations. Gaussian elimination. Linear independence and rank of a matrix. Kronecker-Capelli theorem.	3	3
	3. Inverse matrix. Determinants. Submatrices and subdeterminants. Laplace expansion of a determinant. Cramer's rule.	3	3
	4. Vectors. Basic operations with vectors. Coordinate system. Unit vector and cosines of directions. Linear independence of	3	3

	vectors and basis of a space. Scalar (dot) product, vector product and mixed product.		
	5. Equations of a line. Equations of a plane. Applications of analytic geometry.	3	3
	6. Functions of a real variable: defining function, classification of functions. Limits and continuity. Asymptotes. Review of elementary functions.	3	3
	7. Derivatives. Tangent and normal. Differential and approximate computation.	3	3
	8. Higher derivatives and differentials. Derivatve of a parametric function. Theorems of differential calculus (Fermat, Rolle, Cauchy, Lagrange). L'Hospital's rule and limits of undetermined forms.	3	3
	9. Monotonicity. Necessary and sufficient conditions for extrema. Geometrical extrema.	3	3
	10. Curvature. Sufficient condition for convexity and concavity. Necessary and sufficient conditions for inflection points. Examining functions and drawing graphs.	3	3
	11. Sequences of real numbers. Basic inequality of convergence. Accumulation point and sub-sequence. Boundedness, monotonicity and convergence. Properties of limits. Cauchy series. Some important limits.	3	3
	12. Series of real numbers. Sufficient condition for convergence. Convergence criteria. Absolute convergence. Alternating series.	3	3
	13. Sequences of functions. Series of functions. Power series and convergence radius. Differentiating series of functions. Taylor series and applications.	3	3
	List of laboratory or design exercises		LE or DE hours

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Regular attendence to and active participation in lectures and excercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	3	Research		Practical training	
	Experimental work		Report		Self study	3.6
	Essay		Seminar essay		(Other)	
	Tests	0.2	Oral exam		(Other)	
	Written exam	0.2	Project		(Other)	

Grading and evaluating student work in class and at the final exam	During semester two mid-term exams are held. The first exam is scheduled after 7 weeks of lectures, and the second in the week following the lectures. At each mid-term exam students can get 40 points, while the remaining 20 points are attained through assignements during lectures and excercises. The condition for passing the course is minimum 20 points on each mid-term exams and a total of at least 50 points. After semester, two final exams and a correction exam are held. Students which did not pass one mid-term exam, can take only this part of the exam during final exams.

<table>
<tr><td></td><td colspan="3">Student which did not pass any mid-term exam, take the final exam with comprehensive course content. In that case, maximum numbers of available points is 80. The condition for passing the course is minimum 40 points in the final exam and a total of at least 50 points. The grade is formed after the second final exam according to article 75 of the Statute of FESB:
15% of the best students get the mark excellent (5),
next 35% students get the mark very good (4),
next 35% students get the mark good (3), and
the last 15% students get thet mark sufficient (2).

Students who did not pass the course after final exams, and have obtained total of at least 10 points, can attend the correction exam. On the correction exam maximal number of points is 100, and the minimum requirement for a passing grade is 50 points.

Mid-term exams, final exams and correction exams are held according to the exam schedule.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>I. Slapničar, Matematika 1, skripta, FESB, Split</td><td></td><td>http://www.fesb.unist.hr/mat1</td></tr>
<tr><td>Babić, Z., Tomić-Plazibat, N., Aljinović Z., Matematika u ekonomiji, Ekonomski fakultet, Split, 2004.</td><td>3</td><td></td></tr>
<tr><td>Babić, Z., Tomić-Plazibat, N., Poslovna matematika, Ekonomski fakultet, Split, 2004.</td><td>3</td><td></td></tr>
<tr><td>Lecture materials on FESB e-learning portal.</td><td></td><td>https://elearning.fesb.unist.hr/</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">Petar Javor, Matematička analiza 1, Element, Zagreb, 2001.
Luka Krnić i Zvonimir Šikić, Račun diferencijalni i integralni, I. dio, Školska knjiga, Zagreb, 1993.
Šego, B., Matematika za ekonomiste, Narodne novine, Zagreb, 2005.
Chiang, A. C., Osnovne metode matematičke ekonomije, MATE, d.o.o., Zagreb, 1994.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- homework
- short tests
- quizzes
- mid-term exams
- final exam
- student questionnaires</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	MATHEMATICS 2						
Code	FEME04	Year of study	1				
Course teacher	Ivan Slapničar, Ph.D., Full Professor, Anita Matković, Ph.D., Associate Professor, Josipa Barić, Ph.D., Assistant Professor	Credits (ECTS)	7				
Associate teachers	Ph.D. Nevena Jakovčević Stor, mr. sc. Ivančica Mirošević, Irena Bego, Anita Carević, Marija Čatipović, Lea Dujić, Ivana Grgić, Lana Periša, Marina Mandić, Dajana Radišić, Mirjana Strukan, Stjepan Vedran Vukasović, Vanja Županović	Type of instruction (number of hours)	L	S	AE	LE	DE
			45	0	45	0	0
Status of the course	obligatory	Percentage of application of e-learning	10				

COURSE DESCRIPTION

Course objectives	Training students for: application of mathematical concepts and tools from the area of integral calculus, ordinary differential equations, functions of several variables and financial mathematics, to analyze and solve engineering and economy problems.		
Course enrolment requirements and entry competences required for the course	Good knowledge of High School mathematics and passed State Exam in Mathematics.		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - state definitions and theorems from the enitre course, - reproduce proofs of basic theorems, - illustrate theorems with examples, - solve elementary indefinite integrals and calculate areas by use of definite integrals. - solve ordinary first order differential equations and apply them to model population growth. - analyze the extrema of real functions of two, and three variables. - solve simple optimization problem. - calculate final and initially values of one amount, and several periodic payments. - make plan for loan repayment and conversion.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	1. Indefinite integrals. Definition and basic properties. Table of basic integrals. Supstitution.	3	3
	2. Partial integration. Integration of rational functions.	3	3
	3. Definite integrals. Definition, basic properties and applications. Improper integrals.	3	3
	4. Definite integrals. Definition and basic properties. Newton-Leibnitz formulae. Techniques of integration. Improper integrals.	3	3
	5 Extrema of functions of two, and three variables. Conditional extrema.	3	3
	6. Optimization by use of Lagrange multiplier.	3	3

	7. Ordinary differential equations of first order. Applications in economy.	3	3
	8. Financial mathematics. Compound interest calculation.	3	3
	9. Final and initially values of one amount. Sorts of interest.	3	3
	10. Final and initially values of several periodic payments.	3	3
	11. Eternal rent. Continuous capitalization. Loan repayment with constant annuity. Loan reprogramming.	3	3
	12. Incomplete annuity. Intercalary interest. Loan repayment with constant share. Loan depreciation.	3	3
	13. Consumer's loan.	3	3
	List of laboratory or design exercises		LE or DE hours

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Regular attendence to and active participation in lectures and excercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	3	Research		Practical training	
	Experimental work		Report		Self study	3.6
	Essay		Seminar essay		(Other)	
	Tests	0.2	Oral exam		(Other)	
	Written exam	0.2	Project		(Other)	

Grading and evaluating student work in class and at the final exam	During semester two mid-term exams are held. The first exam is scheduled after 7 weeks of lectures, and the second in the week following the lectures. At each mid-term exam students can get 40 points, while the remaining 20 points are attained through assignements during lectures and excercises. The condition for passing the course is minimum 20 points on each mid-term exams and a total of at least 50 points. After semester, two final exams and a correction exam are held. Students which did not pass one mid-term exam, can take only this part of the exam during final exams. Student which did not pass any mid-term exam, take the final exam with comprehensive course content. In that case, maximum numbers of available points is 80. The condition for passing the course is minimum 40 points in the final exam and a total of at least 50 points. The grade is formed after the second final exam according to article 75 of the Statute of FESB: 15% of the best students get the mark excellent (5), next 35% students get the mark very good (4), next 35% students get the mark good (3), and the last 15% students get thet mark sufficient (2).

<table>
<tr><td></td><td colspan="3">Students who did not pass the course after final exams, and have obtained total of at least 10 points, can attend the correction exam. On the correction exam maximal number of points is 100, and the minimum requirement for a passing grade is 50 points.

Mid-term exams, final exams and correction exams are held according to the exam schedule.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>I. Slapničar, Matematika 2, skripta, FESB, Split</td><td></td><td>http://www.fesb.unist.hr/mat2</td></tr>
<tr><td>Babić, Z., Tomić-Plazibat, N., Aljinović Z., Matematika u ekonomiji, Ekonomski fakultet, Split, 2004.</td><td>3</td><td></td></tr>
<tr><td>Babić, Z., Tomić-Plazibat, N., Poslovna matematika, Ekonomski fakultet, Split, 2004.</td><td>3</td><td></td></tr>
<tr><td>Lecture materials on FESB e-learning portal.</td><td></td><td>https://elearning.fesb.unist.hr/</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">Šego, B., Matematika za ekonomiste, Narodne novine, Zagreb, 2005.
Chiang, A. C., Osnovne metode matematičke ekonomije, MATE, d.o.o., Zagreb, 1994.
Dowling, E. T., Introduction to mathematical economics, Schaum's Outline Series, Mc Graw -Hill, New York, 1996.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- homework
- short tests
- quizzes
- mid-term exams
- final exam
- student questionnaires</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	MECHANICS 1						
Code	FESE10	Year of study	1.				
Course teacher	Frane Vlak, Ph. D., Associate Professor	Credits (ECTS)	7				
Associate teachers	Branka Bužančić-Primorac, Ph. D., Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			45	0	30	0	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Training students for: - understanding and application of basic knowledge of mechanics of rigid bodies at state of rest, - understanding basic concepts in mechanics such as force, moment of force, couple and system of forces (from system of concurrent forces to spatial system of parallel forces), - studying equilibrium of body and equilibrium of system of bodies, - determination and analysis of internal forces for beams and trusses.		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - explain fundamental quantities and concepts in mechanics (force, moment of force, couple, moment of couple, system of forces, connection, reaction of connection, external forces, internal forces), - perform composition of system of forces (from system of concurrent forces to spatial system of parallel forces), - apply equilibrium conditions for body and for system of bodies, - compute reactions of connections for statically determined plane structures, - consider and apply calculation of rough surface reaction as well as calculation of flexible belt friction, - compute internal force components for statically determined plane beams, frames, arcs and trusses and for spatial-plane beams, - compute centroid of homogenous bodies with composite shape.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Mission of statics. Force. Axioms of statics. Connections. Reactions of connections. Axiom of connections.	3	1
	System of concurrent forces. Composition of system of concurrent forces. Resultant. Determining components of force. Force projection on axis. Force projection on plane. Analytical defining of force.	3	1
	Equilibrium conditions of system of concurrent forces. Moment of force about point. Varignon theorem about moment of resultant of planar system of concurrent forces. Special forms of equilibrium conditions of planar system of concurrent forces.	3	3
	Coplanar system of parallel forces and couples. Composition	3	1

	of two parallel forces. Couple. Moment of couple. Equivalence of couples. Composition of coplanar system of couples. Equilibrium conditions of coplanar system of couples.		
	Coplanar force system. Theorem about reduction of force at point. Reduction of coplanar force system at point. Representing coplanar force system by simplier form. Equilibrium conditions of coplanar force system.	3	2
	Equilibrium conditions of coplanar system of parallel forces. Equilibrium of system of bodies. Friction. Sliding friction. Reaction of rough surface. Friction angle and friction cone.	3	3
	Equilibrium under friction conditions. Friction of flexible belt. Rolling friction.	3	3
	Plane beams. Internal force components of plane beams. Relations between internal force components and external loading.	3	2
	Examples of plane beams.	3	3
	Plane trusses. Plane arcs.	3	2
	Spatial system of parallel forces and couples. Moment of force about axis. Equivalence of couples acting in parallel planes. Composition of spatial system of couples. Equilibrium conditions of spatial system of couples. Composition of spatial system of parallel forces. Representing spatial system of parallel forces by simplier form.	3	1
	Equilibrium conditions of spatial system of parallel forces. Varignon theorem about moment of resultant of spatial system of parallel forces about axis. Spatial-plane beams. Internal force components of spatial-plane beams. Examples of spatial-plane beams. Centorid. Centre of system of parallel forces.	3	2
	Centroid of rigid body. Centorid of homogenous body. Centorid of homogenous bodies with composed shape. Experimental determination of body centroid. Pappus-Guldin rules.	3	2
	List of laboratory exercises		LE hours

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures and exercises in the amount of at least 70 % of the times scheduled.	

Screening student work *(name the proportion of ECTS credits for each activity so that the*	Class attendance	2,6	Research		Practical training	
	Experimental work		Report		Individual work	4,1
	Essay		Seminar essay		Laboratory exercises	

total number of ECTS credits is equal to the ECTS value of the course)	Tests	0,2	Oral exam		Preparation for laboratory exercises	
	Written exam	0,1	Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterm exams during the semester. After semester there are two final exam terms and one corrective exam term according to schedule. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks of lecturing. Each midterm exam is written and test consists of theoretical questions and numerical problems. The requirement for passing grade is 50% points on each midterm exam. In the final exams students that did not pass the midterm exams take part. In the corrective exam students take whole exam. Final number of points is formed according to the formula: Points(%)= (M1 + M2)/2 M1, M2 – points on midexams. Final grade is determined after the second final exam by relative system of grading according to Regulations of studies and study system of University of Split. Based on the achived number of points students that have passed the exam are distributed into four groups: 15% of the best students get grade excellent (5), following 35% students get grade very good (4), following 35% students get grade good (3) and last 15% students get grade sufficient (2). If the total number of students that have passed the exam at midterms and final exams is lower than 30, the final grade is determined by absolute system of grading. In this case, the final grade is determed by the achived final number of points in the following manner: from 50% to 61% - grade sufficient (2), from 62% to 74% - grade good (3), from 75% to 87% - grade very good (4) and from 88% to 100% - grade excellent (5). Students can access the corrective exam term if they have achived at least 10% points on midterm exams or final exams. According to Article 71 of Faculty Statue, students are obligate to contribute in all education activities and to attend at least 70% of lecture and exercise lessons. Above conditions are necessary to access midterm and final exams.

	Title	**Number of copies in the library**	**Availability via other media**
Required literature (available in the library and via other media)	Pavazza, R.,"Tehnička mehanika - Statika", Sveučilište u Splitu, FESB, Split, 2007.		
	Plazibat, B., Matoković, A., "Mehanika 1 – zbirka zadataka“, FESB, Split, 1999.		
	Cvitanić, V., "Predavanja iz kolegija Mehanika 1", FESB.		e-learning portal
Optional literature (at the time of submission of study programme proposal)	Alfirević, I.; Saucha, J.; Tonković, Z., Kodvanj, J., "Uvod u mehaniku - I. Statika krutih tijela", "Uvod u mehaniku – II. Primjenjena statika", Golden marketing - Tehnička knjiga, Zagreb, 2010. Brnić, J., "Statika", Sveučilište u Rijeci, Tehnički fakultet, Rijeka, 2004. Matejiček, F., Semenski D., Vnučec, Z., "Uvod u statiku sa zbirkom zadataka", Golden marketing - Tehnička knjiga, Zagreb, 2005. Meriam, J. L.; Kraige, L. G.: "Engineering Mechanics-Statics", John Wiley & Sons,		

	2003.
Quality assurance methods that ensure the acquisition of exit competences	- recording student's presence on lessons - evaluation of results in accordance with the above learning outcomes - feedback from students via surveys - self-evaluation of teachers - institutional and non-institutional evaluations
Other (as the proposer wishes to add)	

<table>
<tr><td>NAME OF THE COURSE</td><td colspan="6">MECHANICS 2</td></tr>
<tr><td>Code</td><td>FESE08</td><td>Year of study</td><td colspan="5">1</td></tr>
<tr><td>Course teacher</td><td>Željan Lozina, Ph. D., Full Professor
Damir Sedlar, Ph. D., Assistant Professor</td><td>Credits (ECTS)</td><td colspan="5">7</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Tomac Ivan, Ph. D., Teaching assistant</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>AE</td><td>LE</td><td>DE</td></tr>
<tr><td>45</td><td>0</td><td>45</td><td>0</td><td>0</td></tr>
<tr><td>Status of the course</td><td>Obligatory</td><td>Percentage of application of e-learning</td><td colspan="5">0</td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="6">Training students for: This course will introduce the fundamentals of engineering dynamics. It will develop the skills in how to model and analyses the motion of particles and rigid bodies as a foundation for dynamic analysis of mechanical systems. This fundamental course will also help develop engineers eyes to understand how machines work, and develop an engineering mind set to present and communicate work in a clear and concise written format.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">None</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">Students will be able to:
- Apply kinematics of the three-dimensional particle motion in various coordinate systems: Cartesian, natural and cylindrical.
- Explain the concepts of displacement, velocity and acceleration as vectors and how to determine them.
- Explain the notion of a force as a vector.
- Explain concepts of kinetic, potential and mechanical energies and the concept of a conservative force.
- Explain concepts of power and mechanical efficiency.
- Apply particle dynamics
- Ability to make a right decision related to a choice of the system of particles whose motion is to be studied.
- Ability to correctly draw the free-body diagram (FBD) for the system.
- Ability to write and solve Newton equations of motion for the system.
- Ability to use principles derived from Newton’s second law, including Work & Energy, and Momentum.
- Apply the kinematics of two-dimensional (planar) rigid-body motion.
- Ability to use concepts of angular displacement, angular velocity and angular acceleration.
- Ability to draw a FBD for a system of rigid bodies.
- Ability to determine mass moment of inertia for body.
- Ability to use principles derived from Newton’s second law, including Work & Energy, and Momentum, to derive equations of motion for a general rigid-body planar motion.
- Ability to use SEI of units in all mechanical quantities (linear and angular displacement, velocity and acceleration, mass, force, torque, work/energy, power, momentum, mass moment of inertia).</td></tr>
<tr><td rowspan="3">Course content broken down in detail by weekly class schedule</td><td colspan="4">Course content</td><td>L or S hours</td><td>AE hours</td></tr>
<tr><td colspan="4">Kinematics of Rectilinear motion.</td><td>2</td><td>2</td></tr>
<tr><td colspan="4">Kinematics of Curvilinear motion.</td><td>2</td><td>2</td></tr>
</table>

(syllabus)	Bounded motion of particle, 2. Newton law.	2	2
	Principle of kinetic energy.	2	2
	Work –energy theorem.	2	2
	Principles of linear and angular momentum.	2	2
	Kinematics of Relative motion of particle, Coriolis acceleration.	2	2
	A non-inertial reference frame.	2	2
	Dynamics of a system of particles	2	2
	Planar kinematics of body.	2	2
	Body inertia.	2	2
	Planar kinetics of body.	2	2
	Planar kinetics of bodies.	2	2
	Work and energy of body. Conservation laws.	2	2
	Principles of linear and angular momentum of body. Impact of bodies.	2	2
	Kinetics of body in (3D) space (Euler equations). Gyroscopic motion.	2	2
	Introduction in analytical mechanics. Hamilton principle	1	1
	Lagrangian equations.	2	2
	Free vibration. Natural frequency.	2	2
	Forced vibration. Resonance.	2	2
	List of laboratory or design exercises		LE or DE hours

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	3	Research		Practical training	
	Experimental work		Report		Individual work	4
	Essay		Seminar essay		(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. In the final exams students that did not pass the midterm exams take part. The midterm and final exams are carried out as written tests. The requirement for passing grade is 50 % points on each midterm exam or the final exam. Grade (in percentage) is formed according to the formula: Grade(%) = 0,5 (M1 + M2) • M1, M2 – test results.		
Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Ž. Lozina: Lectures, FESB		Elearning portal
	Ž. Lozina: Kinematika, Sveučilište u Splitu		

	Ž. Lozina: Dinamika, Sveučilište u Splitu		
Optional literature (at the time of submission of study programme proposal)	Gross, D., Hauger, W., Schröder, J., Wall, W.A., Bonet, J.: Engineering mechanics 3, Springer, 2011.		
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	MECHANICS OF MATERIALS						
Code	FESE02	Year of study	2.				
Course teacher	Frane Vlak, Ph. D., Associate Professor	Credits (ECTS)	7				
Associate teachers	Marko Vukasović, Ph. D., Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			45	0	30	0	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Training students for: - understanding and application of basic laws of solid body mechanics, - introducing to stress and strain distribution in the beams under different types of loading (axial, torsion, bending, shear and combined loading).		
Course enrolment requirements and entry competences required for the course	Statics (Mechanics 1)		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - explain plane stress, plane strain and stress-strain relationship (Hooke's law), - analyse plane stress using Mohr's circle, - calculate geometrical properties of cross sections, - determine stress and displacements of beams under tension/compression, torsion and bending, - apply developed procedures to analyse and design simple structures (allowable stress and strain design), - solve statically indeterminate problems using the method of integration of the deflection curve and the method of equating displacements , - analyse beams under combined loadings using failure theories, - solve simple problems of buckling of columns.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Introduction to mechanics of materials. Problems and methods of mechanics of materials. Modelling of structures. Stress vector, normal and shear stress. Stress tensor. Stress transformation.	3	2
	Principal stresses. Mohr's circle for plane stress. Strain, normal strain, shear strain and dilatation. Strain tensor. Strain transformation. Mohr's circle for plane strain.	3	2
	Stress-strain relationship. Experimental data for technical materials.Hooke's law for uniaxial stress state. Plane stress state. Relationship between elasticity constants. Relationship between internal force components and stress components. General approach to problems of mechanics of materials.	3	2
	Geometrical properties of plane areas, first and second moment of area. Parallel axis theorem. Transformation of second moments of area under rotation of coordinate system. Mohr's circle for second moments of area. Radius of gyration.	3	2
	Tension/compression. Prismatic beams and beams with varying cross sectional area. Displacement diagram. Stress concentration.	3	2
	Torsion of circular beams. Assumptions and constraints. Shear stress and strain. Allowable stress design. Bending. Assumptions and constraints.	3	2

	Pure bending. Transverse bending. Allowable stress design. Unsymmetric bending.	3	2
	First midterm exam		
	Differential equation of the deflection curve. Moment-area method. Stresses and strains of beams with nonuniform cross sections.	3	2
	Shear. Statically indeterminate problems in tension/compression. Thermal effects, misfits and prestrains.	3	2
	Statically indeterminate problems in torsion. Statically indeterminate problems in bending.	3	2
	Strain energy. Failure theories.	3	2
	Failure theories for combined loading problems.	3	2
	Buckling of columns. Elastic and inelastic buckling. Design formulas for columns.	3	2
	Second midterm exam		

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	2,6	Research		Practical training	
	Experimental work		Report		Individual work	4,1
	Essay		Seminar essay		Laboratory exercises	
	Tests	0,2	Oral exam		Preparation for laboratory exercises	
	Written exam	0,1	Project		(Other)	

Grading and evaluating student work in class and at the final exam

There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. In the final exams students that did not pass the midterm exams take part. The midterm and final exams are carried out as written tests. Grade (in percentage) is formed according to the formula:

$$\text{Grade}(\%) = 0{,}5\,(M1 + M2)$$

the activities in percentage:

- M1, M2 – test results.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Alfirević, I: Nauka o čvrstoći I, Tehnička knjiga, Zagreb, 1989.	5	
	F. Vlak: Autorizirana predavanja, FESB		e-learning portal

Optional literature (at the time of submission of study programme	Craig, R., R.: Mechanics of Materals, John Wiley & Sons, New York, 2000.

proposal)	
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations
Other (as the proposer wishes to add)	

NAME OF THE COURSE	METAL STRUCTURES DESIGN						
Code	FESC24	Year of study	3				
Course teacher	Željko Domazet, Ph.D., Full Professor, Lovre Krstulović-Opara, Ph.D., Full Professor	Credits (ECTS)	4				
Associate teachers	Miro Bugarin, Ph.D.,Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	0	0	30
Status of the course	Elective	Percentage of application of e-learning	40%				

COURSE DESCRIPTION

Course objectives	Training students for: - Designing and maintaining of simple metal structures. Acquiring knowledge from types of structural materials, optimal designing, typical joints, corrosion and testing (control) of metal structures. - Design and project documentation based on CAD software SolidWorks. - Numerical modelling of metal structure based on finite element simulation and software ADINA.		
Course enrolment requirements and entry competences required for the course	None		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Conceive and construct simple metal structure. - Prove the structure carrying capacity. - Explain calculation of weldments and bolt connections. - Carry out anti-corrosive protection. - Use results of finite element model simulation. - Carry out calculation of weldment and bolt connection. - Describe non-destructive testing base on visual testing, magnetic particles inspection, ultrasound testing and penetrant testing.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Introduction to metal structures and structural design. Contracting of metal structures.	4	
	Materials for metal structures (Aluminium alloys and steel)	4	
	Actions on structures according to HRN, DIN, EUROCODE 3	4	
	Metal structures optimal design.	2	
	Bolt connections with dimensioning.	4	
	Weldments with dimensioning.	4	
	Design of weldments and bolt connections with respect to fatigue.	2	
	Anti-corrosive protection.	2	
	Contracting and renewal of anti-corrosive protection.	2	
	List of laboratory or design exercises		DE hours
	Introduction to SolidWorks and creating metal structure concept in SW.		8
	Demonstration of NDT methods (visual testing, penetrant testing, magnetic particles inspection, ultrasound testing)		4
	Introduction to the finite element method software ADINA		8
	Simulation of structure loading in ADINA.		8
Format of instruction	☒ lectures	☒ independent assignments	

	☒ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	2	Research		Practical training	
	Experimental work		Report		Individual work	1
	Essay		Seminar essay	1	(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	Evaluation of gained knowledge in form of two colloquiums. Maximal score is 100 points, while minimum is passing of exam is with 50 points. Exam: individual, theoretical. Mode of exam: written form.

	Title	**Number of copies in the library**	**Availability via other media**
Required literature (available in the library and via other media)	Ž. Domazet, L. Krstulović-Opara, Skripta iz Metalnih konstrukcija (in Croatian)		E-learning
	Additional course materials		E-learning

Optional literature (at the time of submission of study programme proposal)	- EUROCODE 1 - EUROCODE 3 - B. Androić, D. Dumović, I. Džeba, Metalne konstrukcije I, Institut građevinarstva Hrvatske, Zagreb 1994. - A. Vukov, Uvod u metalne konstrukcije, Fakultet građevinskih znanosti Sveučilišta u Splitu, Split 1998.
Quality assurance methods that ensure the acquisition of exit competences	- Student evaluations - Registering student's attendance to course
Other (as the proposer wishes to add)	

<table>
<tr><td>NAME OF THE COURSE</td><td colspan="6">MODERN MATERIAL PROCESSING TECHNOLOGIES</td></tr>
<tr><td>Code</td><td>FETE06</td><td>Year of study</td><td colspan="4">3.</td></tr>
<tr><td>Course teacher</td><td>PhD Nikša Krnić, Associated professor</td><td>Credits (ECTS)</td><td colspan="4">4</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Domagoj Kojundžić, Teaching Assistant</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>AE</td><td>LE</td><td>DE</td></tr>
<tr><td>30</td><td></td><td></td><td>15</td><td></td></tr>
<tr><td>Status of the course</td><td>Elective</td><td>Percentage of application of e-learning</td><td colspan="4"></td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="6">To present to the students contemporary materials processing technologies in order to prepare them for modern industries, technological challenges and manufacturing solutions. An overview of advanced and key technology - laser processing, as well as friction stir processing and latest industrial robotic applications will be depicted as the fundamentals for understanding of materials processing and interactions of these technologies with various types of materials.

To acquire essential and specialistic knowledge about laser and robotic applications for engineering materials and to obtain insight in mechanical and technological properties.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">No special prerequisites are foreseen but it would be advisable that students have accomplished subjects of engineering materials and technologies from previous semesters and to be familiar with basics of physics.</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">Upon successful course completion it is to be expected from students:
1. to classify and to make a distinction between different laser types, their construction and basic features as well as the different optical systems for material processing,
2. to classify and to recognize different robotic systems for materials processing and their basic features,
3. to analyse and to evaluate laser beam – material interaction and influence on the structure and properties of engineering materials,
4. to critically evaluate combined effect of laser and electric arc impact on various structural metals,
5. to select and to recommend suitable laser processing method for specific industrial application,
6. to know the possibilities, limitations and applications of friction stir welding,
7. to be able to generally compose a welding robotic cell or robotic cell for cutting or additive layer manufacturing,
8. to be aware of dangers and to be able to ensure safe working conditions by laser and robotic technologies and to know how they impact people and environment.</td></tr>
<tr><td rowspan="4">Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="5">Course content</td><td>L hours</td></tr>
<tr><td colspan="5">Introduction to manufacturing technologies and modern engineering materials. Evolution and fundamentals of a laser as a manufacturing tool for material processing. Laser beam properties. Laser safety.</td><td>3</td></tr>
<tr><td colspan="5">Classification and main features of modern industrial lasers. High and low power lasers. Optical systems.
Laser – material interactions with metallic and non-metallic materials. Thermal and athermal material processing. Laser processing maps.</td><td>4</td></tr>
<tr><td colspan="5">Laser processing in micro domain - microwelding, drilling and marking. Macro laser processing – welding, hybrid laser welding, cutting, spraying and surface modification.
Industrial laser systems and laser system components. Automated laser workstations.</td><td>4</td></tr>
</table>

	Examples of laser industrial applications: in processing of oxidation sensitive metals, in medical devices technology; in automotive and shipbuilding, photovoltaics industry … (refractive metals, high-strength steels, lightweight metals, polymers, engineering ceramics …).	2
	Friction Stir Welding. Friction Stir Processing for selective modification of microstructure, superplastic forming and production of closed channels. Robotic FSW.	3
	Introduction to robotics and basic terminology. Classification and major features of robots. Sensors. Industrial robotic systems and cells and their typical modern applications (welding, cutting, additive layer manufacturing, brazing, spraying, laser arc hybrid welding, FSW …)	2
	On-line and off-line programming.	2
	Principles and features of robotic welding on example of gas metal arc welding processes (GMAW; GTAW; PAW; SAW, laser hybrid welding, friction stir welding), robotic cutting, thermal spraying and other industrial robotic applications. Examples of adaptive control by robotic welding.	6
	List of exercises	LE hours
	Health hazards, precautions and safety by laser and robotic technologies.	1
	Experimentation on interaction of laser beam with different metallic and non-metallic materials. Practical laser melting and laser micro welding.	4
	Demonstration of friction stir welding principle and process analysis.	1
	Characterization of robotic cell for Gas Metal Arc welding.	1
	Practical presentation of on-line and off-line robot programming and robot jogging.	2
	Practical presentation of robotic GMA welding on selected structural alloys.	3
	An educational and professional excursion and visit to a company dealing with laser or robotic technology (an additional but nonmandatory learning opportunity for students).	(3)

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Mandatory minimum attendance: 70 % for the lectures and 85 % for lab exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1,5	Research		Practical training	
	Experimental work		Report		Individual work	1,5
	Essay		Seminar essay	1	(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	Students can choose to complete the course by two midterm exams during semester or by the regular written exam (in any case there is a short oral examination) after complete execution of lectures and exercises. Required minimum level which students have to satisfy is 50 %. Following grading scheme is to be applied: grade (2) or sufficient require 50 % to 61 % successfully and satisfactorily adopted knowledge, grade (3) or good for 62 % to 74 %, grade (4) or very good for 75 % to 87 % and grade (5) or excellent is

<table>
<tr><td></td><td colspan="3">administered for 88 % and more. Seminar can improve the final grade.</td></tr>
<tr><td rowspan="4">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>Selected chapters in:
1. Ion, J. C.: Laser Processing of Engineering Materials - principles, procedure and industrial application, Elsevier Butterworth-Heinemann, 2005.
2. Handbook of laser welding technologies, Katayama, S., Editor, Woodhead Publishing, 2013.
3. Pires, J. N.; Loureiro A.; Bölmsjo G.: Welding Robots - Technology, System Issues and Applications, Springer-Verlag, 2006.
4. Siciliano, B.; Khatib, O.: Springer Handbook of Robotics, Springer-Verlag, 2008.
5. Weber, M. J.: Handbook of Lasers, CRC Press LLC, 2001.</td><td></td><td></td></tr>
<tr><td>6. Duplančić, I., Krnić, N.: "Materijali 3", e-book, FESB, Split 2011.
7. Krnić, N.: Laserska obrada materijala, handouts, unpublished, FESB, 2010.</td><td></td><td>eLearning portal</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">1. Steen, W. M., Mazumder, J.: Laser Material Processing, IV Ed., Springer 2010.,
2. Dowden, J.: The Theory of Laser Materials Processing - Heat and Mass Transfer in Modern Technology, Springer, 2008.,
3. Callister, W. D. Jr.: Fundamentals of Materials Science and Engineering, An Integrated Approach, II. Ed., John Wiley and Sons, Inc. 2005.
4. Conference proceedings, manuals, journals, manufacturer information and distinguished web documents dealing with course topics in Croatian and English</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Evaluation of results in accordance with the learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers
- Institutional and non-institutional evaluations</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	NOISE AND VIBRATION CONTROL						
Code	FESR16	Year of study	3				
Course teacher	Željan Lozina, Ph.D., Full Professor Damir Sedlar, Ph.D., Assistant Professor	Credits (ECTS)	5				
Associate teachers	Tomac Ivan, Ph.D., Assistant Professor	Type of instruction (number of hours)	L	S	AE	LE	DE
			30		15	15	
Status of the course	Elective	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Training students for: – introduce students to the requirements, principles and methods of noise and vibration control; – provide basic knowledge and understanding of noise and vibration control; – provide the application of this knowledge to simple problems; -
Course enrolment requirements and entry competences required for the course	None
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Explain free and forced vibrations, - Determine the natural frequency of the mechanical system with single degree of freedom, - Explain the concepts and phenomena: transferability, excitation imbalance, vibration isolation, - Explain the principles of noise isolation, - Apply the basic techniques of vibration isolation, - Handle with manual measuring instruments and operate with sensors to measure acceleration (accelerometer).

Course content broken down in detail by weekly class schedule (syllabus)

Course content	L or S hours	AE hours
Single degree of freedom system – free undamped vibration	2	1
Single degree of freedom system – forced undamped vibration	2	1
Single degree of freedom system – free damped vibration	2	1
Single degree of freedom system – forced damped vibration	2	1
Transmissibility	2	1
Base and imbalance excitation, vibration isolation	2	1
Two degree of freedom system	2	1
Wave equation	2	1
Fundamentals of noise	2	1
Humane response to sound	2	1
Sound source, outdoor sound	2	1
Indoor sound	2	1
Sound isolation	2	1
List of laboratory or design exercises		LE or DE hours
Introduction to Labview		2
Single degree of freedom system – free damped vibration		1

	Frequency response function SDOF – shaker	1
	Frequency response function SDOF – unbalance	1
	Single plane balancing	1
	Frequency response function MDOF – shaker	2
	Sound pressure measurement - Labview	1
	Sound pressure measurement – Hand tool	1
	Sound isolation	1
	Reverberation time	1
	Kundt tube	1

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	2	Research		Practical training	
	Experimental work		Report		Individual work	3
	Essay		Seminar essay		(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. In the final exams students that did not pass the midterm exams take part. The midterm and final exams are carried out as written tests. The requirement for passing grade is 50 % points on each midterm exam or the final exam. Grade (in percentage) is formed according to the formula: Grade(%) = 0,5 (M1 + M2) • M1, M2 – test results.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Ž. Lozina: Lectures, FESB D. Sedlar: Lectures, FESB		Elearning portal
	B.H. Tongue: Principles of vibration, Oxford University press, 1996		

Optional literature (at the time of submission of study programme proposal)	M. Norton, D. Karczub: Fundamentals of Noise and Vibration Analysis for Engineers, Cambridge, 2003.
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations
Other (as the proposer wishes to add)	

NAME OF THE COURSE	PHYSICS							
Code	FEMC01	Year of study	1.					
Course teacher	Ivica Puljak, Ph.D., Full Professor, Nikola Godinović, Ph.D., Associate Professor,Ilja Doršner, Ph.D., Associate Professor, Damir Lelas, Ph.D., Assistant Professor	Credits (ECTS)	5					
Associate teachers		Type of instruction (number of hours)	L	S	AE	LE	DE	
			45	0	0	0	0	
Status of the course	Obligatory	Percentage of application of e-learning	0					

COURSE DESCRIPTION

Course objectives	Training students for: - understanding of basic laws of classical physics; - ability to apply laws of classical physics to real-life problems.
Course enrolment requirements and entry competences required for the course	None
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - to present basic laws of mechanics, fluid statics and dynamics, thermodynamics, oscillations, waves, electromagnetism, optics and the structure of atoms. - to demonstrate problem solving in the area of these physical units. - to perform more complex conclusions from fundamental physical principles in the mentioned units. - to analyse real physical problems in these units. - to present physical concepts and solutions of real problems in the mentioned areas. - to interpret physical processes in the areas of mechanics, fluid statics and dynamics, thermodynamics, oscillations, waves, electromagnetism, optics and the structure of atoms.

Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Physical quantities and units. Vectors and scalars. Basic introduction to the calculus.	3	0
	Particle kinematics.	3	0
	Newton's laws, friction force.	3	0
	Work, power, energy. The movement of system of particles and rigid bodies.	3	0
	Gravity, gravitational potential energy.	3	0
	Fluid statics and dynamics.	3	0
	Heat and thermodynamics.	3	0
	Harmonic oscillations.	3	0
	Mechanical waves, sound waves, ultrasound.	3	0
	Electromagnetic waves.	3	0
	Geometrical and physical optics.	3	0

	The quantum nature of light.	3	0
	The structure of atoms.	3	0

Format of instruction	☒ lectures ☐ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1,5	Research		Practical training	
	Experimental work		Report		Individual work	3,1
	Essay		Seminar essay		(Other)	
	Tests	0,2	Oral exam		(Other)	
	Written exam	0,2	Project		(Other)	

Grading and evaluating student work in class and at the final exam

There are two midterm exams, two final exams and one make-up exam. The first midterm exam is after 7 weeks of lectures and the second one is after the next 6 weeks. Each midterm test consists of the following 6 questions:
- 2 obligatory questions (basic course questions);
- 4 additional questions that test the theory and problem solving knowledge.

The requirement for passing grade at the midterm exams is to have at least 90% from each obligatory question and at least 50% from each of remaining 4 questions. Students that do not pass one of the midterm exams can retake it during the final exams. Final exams lasts consist out of the following 12 questions:
- 4 obligatory questions (basic course questions);
- 8 additional questions that test the theory and problem solving knowledge.

The requirement for passing grade at the final exam is to have at least 90% from each of obligatory questions and at least 50% from each of remaining 8 questions. Final grade is determined using the relative grading system based on the arithmetic mean of the per cents of each of the additional questions. Obligatory questions do not enter the arithmetic mean. Students that have passed both midterm exams or final exams are grouped in four categories: 15% of the students with the highest arithmetic means are assigned grade A (excellent), 35% of the students with the next best arithmetic means are assigned grade B (very good), 35% of the students with the next to next best arithmetic means are assigned grade C (good), and 15% of the students with the lowest passing arithmetic means are assigned grade D (satisfactory).
Students who fail to pass the course through midterms and/or final exams have one make-up exam at the beginning of fall. This exam features the same format as the final exam.
Exam schedule is predetermined through the academic calendar.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	D. Lelas: Online materials, E-learning portal of FESB		
	Kulišić, P.: Mehanika i toplina, Školska knjiga, Zagreb, 1995. (in Croatian)		
	V. Henč-Bartolić, Kulišić, P.: Valovi i optika, Školska knjiga, Zagreb, 1995. (in Croatian)		

Optional literature (at the time of submission of study programme proposal)	- D. Halliday, R. Resnick, J. Walker: Fundamental of Physics, 7th Edition, John Wiley & Sons, Inc., 2005; N. Cindro: Fizika 1, Školska knjiga, Zagreb, 1991; C. Kittel, W. D. Knight, M. A. Ruderman: Udžbenik Sveučilišta u Berkeleyu, Svezak 1, Mehanika, Tehnička knjiga, Zagreb, 1992.		
Quality assurance methods that ensure the acquisition of exit competences	- Student evaluation surveys - Teacher self-evaluation - Institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	PRINCIPLES OF ECONOMICS							
Code	FEEE02	Year of study	1					
Course teacher	Zlatan Reić, Ph. D., Full Professsor Maja Mihaljević Kosor, Ph. D., Assistant Professor	Credits (ECTS)	5					
Associate teachers	Maja Mihaljević Kosor, PhD Vladimir Šimić, PhD, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE	
			30	0	30	0	0	
Status of the course	obligatory	Percentage of application of e-learning	15%					

COURSE DESCRIPTION			
Course objectives	Training students for: - The main goal of the course is to ensure students have the ability to understand main economic relationships and processes.		
Course enrolment requirements and entry competences required for the course			
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: 1. To identify and describe main economic terms. 2. To discuss and compare main economic theories in the history of economic thought. 3. To outline the construction of individual and general market equilibrium. 4. To interpret the role of the state in the economy. - 5. To analyse the main elements of the market society.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	Organization of the class. Economics as a science. History of economic thought.	2	
	History of economic thought – part 2.	2	
	Production: technical and social aspects. Production function.	2	
	Types of costs in production. Measures of business performance.	2	
	Distribution and its role in the reproduction process.	2	
	Exchange and its role in the reproduction process.	2	
	Monopoly pricing. Problems in the efficiency of the market mechanism. Consumption and its role in the reproduction process.	2	
	Equilibrium in macroeconomics.	2	
	The aggregate expenditures model. Economic policy.	2	
	Economics in life. Production and technological structure of the modern society. Different types of ownership.	2	
	Managerial revolutions. Capital markets. Corporate governance. Problems of state-owned firms.	2	
	Entrepreneurship. Market structure and types of competition.	2	

	Money, credit and banking system.	2	
	Economic and political role of the government in a modern society.	2	
	International relations and open issues.	2	
	List of laboratory or design exercises		LE or DE hours
	Introduction to the main topics and terminology		2
	Main events, individuals and theories in the history of economic thought.		2
	Graphical and numerical examples for production.		2
	Graphical representation of costs and examples.		2
	Examples for distribution.		2
	Constructing supply and demand curves.		2
	Graphical representation of the monopoly. Examples from consumption.		2
	Main topics in macroeconomic analysis.		2
	Graphical and numerical examples for macroeconomics.		2
	Terminology and main topics. Examples of technological development.		2
	Examples and discussion.		2
	The role of entrepreneurship in business performance.		2
	Money and the financial system: main topics and definitions.		2
	The role of the state: liberal and keynesian ideology		2
	Discussion of the role of international trade, finance and policy		2

Format of instruction	☑ lectures ☐ seminars and workshops ☑ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☑ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Students are obliged to attend 70% of total lectures. This is the prerequisite for being able to take exams.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance		Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests	6*	Oral exam	3	(Other)	
	Written exam	3	Project		(Other)	

Grading and evaluating student work in class and at the final exam	Two tests are organized during the year, each consisting of a written and oral part. The second test can be taken only under the condition that the first one is passed (60% on the written part and a pass grade on the oral part of test). Two tests are equivalent to the final exam. After passing either the tests or the final exam, a student will receive his/her grade.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Reić, Z., Mihaljević Kosor, M., "Ekonomija", Ekonomski fakultet Split, 2011. (III. izmijenjeno izdanje)	20	
	Mankiw, G. (2001): Principles of Economics,	1	

	Harcourt College Publishers, 2nd edition		
	Ekelund, R. B. Jr. and R. F. Hebert: A History of Economic Theory and Method, Third Edition, McGrawHill, Inc., 1990.	4	
Optional literature (at the time of submission of study programme proposal)	Galbraith, J.K.: Economics in Perspective- A Critical History, Houghton Mifflin Company, 1987 Keynes, J.M.: The General Theory of Employment, Interest and Money, Palgrave Macmillan, UK, 1936		
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	PROFESSIONAL TRAINING									
Code	FEXX06	Year of study	3							
Course teacher	Head of the professional training from the Faculty	Credits (ECTS)	5							
Associate teachers	Head of the professional training from the private institution	Type of instruction (number of hours)	L	S	AE	LE	DE			
Status of the course	Elective	Percentage of application of e-learning								
COURSE DESCRIPTION										
Course objectives	Training students for: - consolidating theoretical knowledge and practical skills in solving highly complex engineering problems - acquaintance with the organization, work and business of the receiving institution, - solving practical problems, - inclusion in the labour market, - writing technical reports									
Course enrolment requirements and entry competences required for the course	Acquired 120 ECTS credits									
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - consolidate theoretical knowledge and practical skills in solving problems - use literature, databases and other sources of information - select appropriate methods and procedures for solving practical problems - apply technical knowledge and skills to effectively solve engineering problems - prepare a written report on the work results									
Course content broken down in detail by weekly class schedule (syllabus)	Professional training is the independent work of the student performed in the receiving institution in accordance with the plan and programme agreed between the head of the professional training from the receiving institution and the head of professional training from the Faculty.									
Format of instruction	☐ lectures ☐ seminars and workshops ☐ exercises ☐ *on line* in entirety ☐ partial e-learning ☒ field work		☒ independent assignments ☐ multimedia ☐ laboratory ☒ work with mentor ☐ (other)							
Student responsibilities	Independent work									
Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance		Research		Practical training	4				
	Experimental work		Report		Independent work					
	Essay		Seminar essay		Report writing	1				
	Tests		Oral exam		(Other)					
	Written exam		Project		(Other)					
Grading and evaluating student work in class and at	Professional training is not evaluated. Students are obliged to complete professional training in accordance with the Regulation on professional training and to write a Professional training report. Professional training report is validated by									

<table>
<tr><td>the final exam</td><td colspan="3">the head of professional training from the receiving institution and the head of professional training from the Faculty.</td></tr>
<tr><td rowspan="2">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3"></td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Questionnaire on professional training
- Self-evaluation of the head of professional training
- Student survey of the whole study programme</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	STATISTICS							
Code	FEEE03	Year of study	2					
Course teacher	Ante Rozga, Ph. D., Full Professor	Credits (ECTS)	7					
Associate teachers		Type of instruction (number of hours)	L	S	AE	LE	DE	
			30	0	30	0	0	
Status of the course	Obligatory	Percentage of application of e-learning	20					

COURSE DESCRIPTION

Course objectives	Getting to know the importance of statistical methods in the professional and scientific work. Independent analysis and interpretation of data obtained through statistical surveys. Statistical way of thinking with the help of probability theory. Qualification for independent reasoning with statistical estimation and hypothesis testing.		
Course enrolment requirements and entry competences required for the course	None.		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	After completing the course, students will be able to: - Choose and apply methods of descriptive and inferential statistics. - Calculate and interpret indicators of descriptive statistics. - Estimate parameters, point estimate and interval estimate. - Calculate the accuracy and reliability of statistical estimates. - Set up and test the statistical hypothesis. - Connect variable correlation analysis and regression analysis. - Analyze and interpret the results of statistical surveys.		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	The Scales of Measurement. Grouping and Presentation of data.	2	2
	Measures of Central Tendency. Measures of Variability. Measures of Skewness and Kurtosis.	2	2
	Probability. Addition and Multiplication law. Conditional probability. Bayes theorem.	2	2
	Discrete Random Variables. Discrete Probability Distributions.	2	2
	Continuous Random Variable. Continuous Probability Distributions.	2	2
	Sample Design. Point and Interval Estimation of Population Parameters.	2	2
	Hypothesis Testing of One Mean. Hypothesis Testing of One Proportion.	2	2
	First Midterm Exam.		
	Errors in Hypothesis Testing. Sample Size Design.	2	2
	Hypothesis Testing of Difference between Two Population Means. Hypothesis Testing of Difference between Two Population Proportions. Dependent and Independent Samples.	2	2
	Contingency Tables Tests.	2	2
	Correlation.	2	2
	Business Statistics. Index Numbers.	2	2

	Measures of Central Tendency in Time Series.	2	2
	Second midterm exam		

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled..	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	2,5	Research		Practical training	
	Experimental work		Report		Individual work	2,5
	Essay		Seminar essay		Laboratory exercises	
	Tests	2	Oral exam		Preparation for laboratory exercises	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. Each midterm test consists of 2 theoretical questions and 8 numerical problems and final tests consist of 4 theoretical questions and 10 numerical problems. Final grade is as follows: 50% - 61% sufficient 62% - 74% good, 75% - 87% very good, 88% - 100% excellent. In the final exams students that did not pass the midterm exams take part. The midterm and final exams are carried out as written tests.

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	A.Rozga: Statistika za ekonomiste. Ekonomski fakultet 2009.	2	
	I.Pavlić: Statistička teorija i primjena. Tehnička knjiga. Zagreb. 1985.	5	
		5	

Optional literature (at the time of submission of study programme proposal)	V.Vranić: Vjerojatnost i statistika. Tehnička knjiga 1971.
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers - Institutional and non-institutional evaluations
Other (as the proposer wishes to add)	

NAME OF THE COURSE	TECHNOLOGY 1							
Code	FETE01	Year of study	2					
Course teacher	Nedjeljko Mišina, Ph.d. full professor Dražen Živković, Ph.d. full professor	Credits (ECTS)	6					
Associate teachers	Nikša Čatipović, Teaching assistant, Zvonimir Dadić, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE	
			45	0	0	30	0	
Status of the course	Obligatory	Percentage of application of e-learning	0					

COURSE DESCRIPTION

Course objectives	Training students to: - Understand the physical changes in welding, brazing and soldering, bonding,metallisation and thermal cutting of metal. - Explain of the basic welding processes and their application. - Accept the standards in welding, certification of the welding procedures and welders. - Understand the basic foundry processes, as well as the advanced techniques of casting metal. - recognize the primary smelting aggregates, the newer materials casting process, such as metal foams, - Overview of casting defects		
Course enrolment requirements and entry competences required for the course	Passed exams form: Materials 1 and Materials 2		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Select the appropriate welding process, filler material and welding parameters, - Develop welding technology, - Calculate the preheating temperature of the welded joint, - Propose measures to reduce deformations and residual stresses in welded joints, - Recognise the process of metal casting, - Distinguish casting mould type, - Analyse the quality of castings based on foundry defects - Explain the fundamental principles of smelting aggregates		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Introduction. Basic terms. Welding processes. The properties of welded joints. Power sources for welding.	3	0
	Deformations and residual stresses of welded joints. Electric arc. Metal transfer in the electric arc.	3	0
	SMAW welding process. TIG welding process. Plasma.	3	0
	MIG / MAG welding process. EPP welding process.	3	0
	Resistance welding. Gas welding. Special welding processes. Welding devices. Robots.	3	0
	Welding defects. Brazing and soldering. Gas and plasma cutting. Oxyarc. Arcair.	3	0
	Certification of the welding procedures and welders. Regulations in welding. Welding technology. Preheating welds. Weldability of: carbon steels, irons, Al and Ti alloys, stainless steels.	3	0

	First midterm exam		
	Introduction to casting technology. Casting models	3	2
	Casting moulds. Disposable moulds - mould materials	3	2
	Mould cores, design, materials, moulds manufacturing control	3	2
	Multiple purposes moulds. Casting procedures - Continuous casting	3	2
	Casting procedures - Centrifugal casting. Precision casting in the disposable moulds. Precision Casting in permanent moulds	3	2
	Castability. Casting technological tests. Basics of the solidification process. Casting defects, Smelting aggregates, Metal foam casting.	3	2
	Second midterm exam		
	List of laboratory or design exercises		LE
	Basic concepts of welding. The division of welding processes.		3
	The impact of coated electrodes on the stability of the electric arc. SMAW welding process. MIG / MAG welding process		3
	EPP welding process. EO welding. Friction welding.		3
	TIG welding process. Gas welding. Brazing and soldering.		3
	Gas and plasma cutting. Oxyarc. Arcair. Metallisation		3
	First midterm exam		
	Second midterm exam		

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence in lectures and exercises in the amount of at least 70%. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1,5	Research		Practical training	
	Experimental work		Report		Self-directed learning	3,5
	Essay		Seminar essay		Laboratory exercises	1,0
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester there will be two mid-term exams (tests). The first mid-term, after 7 weeks of classes and the second after the next 6 weeks of classes. At the final exam students have to take part material that did not pass the mid-term. Each test is carried out as written exam lasting 45 minutes. The requirements for a positive evaluation are: positive assessment of laboratory exercises and 50% points on each test. The final grade is based on the resulting percentage on mid-term exams. Percentage - Rating 50% to 61% - sufficient (2) 62% to 74% - good (3) 75% to 87% - very good (4) 88% to 100% - excellent (5) Examinations according to the Faculty schedule! The final grade is determined after the second final exam, applying the absolute ECTS grading system in accordance with the study rules and study system of the

<table>
<tr><td></td><td colspan="3">University of Split. Students who did not pass the exam after two final exams have the last chance to pass exam in the autumn period. Overall material has to be passed at last possible exam.The exam lasts 90 minutes.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>N. Mišina: the author's lecture, FESB</td><td></td><td>E-learning</td></tr>
<tr><td>D. Živković, the author's lecture, FESB</td><td></td><td>E-learning</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">- S. Kralj, Š. Andrić: Zavarivanje i srodni postupci, FSB, Zagreb, 1999.
- M. Gojić: Tehnika spajanja i razdvajanja materijala, Metalurški fakultet , Sisak, 2003.
- D.Živković, Lijevanje metala, Interna skripta, 2006.
- Z.Bonačić, I. Budić, Osnove tehnologije kalupljenja – Jednokratni kalupi I dio. Strojarski fakultet u Slavonskom brodu, 2001.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Evaluation of results in accordance with the above learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers
- Institutional and non-institutional evaluations</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	TECHNOLOGY 2						
Code	FETE02	Year of study	2				
Course teacher	Dražen Bajić, Ph. D., Full Professor Branimir Lela, Ph. D., Assistant Professor	Credits (ECTS)	6				
Associate teachers	Sonja Jozić, Ph.D., Assistant Professor, Jure Krolo, Teaching assistant Mario Veić, Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			45	0	0	30	0
Status of the course	Obligatory	Percentage of application of e-learning	10%				

COURSE DESCRIPTION			
Course objectives	Training students for: - acquisition of basic knowledge of manufacturing processes by means of metal forming processes and metal removal processes, - understanding basic features of various processes that are based on shaping of the product without and with chip removals.		
Course enrolment requirements and entry competences required for the course	None.		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - categorize metal forming processes and metal removal processes - discuss the use of machining and metal forming technologies - outline procedures and machines used in metal forming processing - comment conditions of flow and flow rules - derive expressions to calculate forces, stresses, strains and strain rates in metal forming processes - analyse the flow of materials, friction factor, flow stress, work and power in metal forming processes - discuss expressions to calculate the cutting speed, material removal volume, cutting force, torque, power, theoretical roughness and the main machine time for particular machining operations - analyze the mechanics of orthogonal and oblique cutting - discuss the mechanisms and forms of tool wear in machining - examine the economic aspect of machining with respect to various criteria		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	Introduction. Classification of metal-removal processes. Basic features particular machining procedures.	3	/
	Parameters of cutting. Basic principles, tool and workpiece motion.	3	/
	Basic tool geometry. Models of chip formation, shape and size of chip. Chips compression, compression rate. Conditions of occurrence of build up edge.	3	/
	Cutting forces, power, vibrations during machining. Thermal phenomena in cutting.	3	/
	Tribology of machining process	3	/
	Integrity of machined surface.	3	/

	Cutting-tool materials. High speed machining.	3	/
	First midterm exam		
	Introduction; Classification of deformation processes; Concept of plastic deformation;	3	/
	Material plasticity indicators; Changes in the material caused by deformation; Anisotropy;	3	/
	Deformation strain and strain rate; Flow stress and flow curves; Yield criteria;	3	/
	Upsetting processes; Forging processes; Drawing processes	3	/
	Extrusion processes; Rolling processes;	3	/
	Sheet metal bending; Deep drawing and spinning processes; Stamping processes;	3	/
	Second midterm exam		
	List of laboratory exercises		LE hours
	Turning, Tool and workpiece geometry, Chip shapes, Cutting-tools materials, 1st part		2
	Turning, Tool and workpiece geometry, Chip shapes, Cutting-tools materials, 2nd part		2
	Planing and slotting, compression rate measurement		2
	Drilling, sinking, and reaming. Measuring the axial force and torque for drilling		2
	Sawing, broaching. Measuring the main cutting force for turning using the power consumption.		2
	Milling. Measuring the surface roughness in relation with cutting parametars.		2
	Grinding, honing, superfinishing. Measuring the cutting forces using three component dynamometer		2
	Deformation influence on material mechanical properties		2
	Material flow investigation		2
	Friction coefficient determination by ring and cylinder upsetting		2
	Flow stress determination by strip and cylinder upsetting		2
	Testing of material formability by upsetting and forging		2
	Investigation of material formability by extrusion; Material springback effect determination during bending		2

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures in the amount of at least 70 % of the times scheduled. Performed all required laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	2,5	Research		Practical training	
	Experimental work	0,5	Report		Individual work	3
	Essay		Seminar essay		(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	There are two midterms and final exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. In the final exams students that did not pass the midterm exams take part. In the makeup exam students take the entire exam. The midterm, final and makeup exams are carried out as written

<table>
<tr><td></td><td colspan="3">tests. The requirements for passing grade is:
1. Positive assessment of laboratory exercises
2. 50 % points on each midterm exam or the final exam.

Grade (in percentage) is formed according to the formula:
Grade(%) = 0,5 (M1 + M2)

M1, M2 – test results of first and second midterm exam.
Final grade is determined according to:
Percentage Grade
50% do 61% sufficient (2)
62% do 74% good (3)
75% do 87% very good (4)
88% do 100% excellent (5)

Examination terms: according to the timetable</td></tr>
<tr><td rowspan="4">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>Duplančić, I.: “Obrada deformiranjem”, Sveučilište u Splitu, FESB, Split 2007.</td><td>5</td><td></td></tr>
<tr><td>Bajić, D. “Obrada odvajanjem”, autorizirana predavanja.</td><td></td><td>e-learning portal</td></tr>
<tr><td>Ekinović S.: “Postupci obrade rezanjem”, Univerzitet u Sarajevu, Mašinski fakultet u Zenici, 2003.</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">- Povrzanović, A. “Obrada metala deformiranjem – odabrana poglavlja”, Sveučilište u Zagrebu, Fakultet strojarstva i brodogradnje, Zagreb, 1996.
- Math M., “Uvod u tehnologiju oblikovanja deformiranjem”, Sveučilište u Zagrebu, Fakultet strojarstva i brodogradnje, Zagreb, 1999.
- Lange K.: "Lehrbuch der Umformtechnik I, II, III", Springer - Verlag Berlin, Heidelberg, New York, 1974.
- Kalpakjian, S., Schmid S.R., “Manufacturing Engineering & Technology”, Prentice Hall, 2013.
- Grote, K.H., Antonsson, G., “Handbook of Mechanical Engineering“, Springer, 2008.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Keeping records of class attendance
- Evaluation of results in accordance with the above learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers
- Feedback information from graduated students</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

<table>
<tr><td>NAME OF THE COURSE</td><td colspan="6">TESTING OF MATERIALS</td></tr>
<tr><td>Code</td><td>FETE10</td><td>Year of study</td><td colspan="5">3.</td></tr>
<tr><td>Course teacher</td><td>Nikša Krnić, PhD, Associate professor</td><td>Credits (ECTS)</td><td colspan="5">4</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Domagoj Kojundžić, Teaching Assistant</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>AE</td><td>LE</td><td>DE</td></tr>
<tr><td>30</td><td></td><td></td><td>30</td><td></td></tr>
<tr><td>Status of the course</td><td>Elective</td><td>Percentage of application of e-learning</td><td colspan="5">10%</td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="6">Indicate on the importance of interconnection of material type and chemical composition, structure and processing with material properties. Introduce and characterise the typical discontinuities and defects in materials as the consequence of manufacturing and service conditions. Teach the students how to obtain the information about chemical composition and about the fundamentals of metallography as an tool for structure analysis.

Present the information about effective detection of surface, sub.surface and volumetric defects in materials by suitable non-destructive testing methods. Enable students to be capable of thorough understanding of NDT principles and to properly select and apply adequate method for required material and structure.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">No special requirements but it is recommended that students accomplished Physics and courses dealing with materials and technology during study.</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">Successful completion of the course should prepare students to be able to:
- classify and distinguish main types of discontinuities and defects in materials and products produced as the consequence of manufacturing and service conditions,
- understand macro- and microstructure of materials
- select the suitable method and equipment for chemical composition testing,
- distinguish and characterise fracture surfaces,
- know metallographic techniques,
- analyse and interpret microstructure of basic structural alloys,
- analyse the possibilities of suitable NDT method and select among them for appropriate industrial need,
- demonstrate application of PT and MP testing techniques.</td></tr>
<tr><td rowspan="3">Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="5">Course content</td><td>L hours</td></tr>
<tr><td colspan="5">Introduction – dinstinct material groups, composition – structure – processing relationship. Impact of materials processing and service conditions on discontinuities and defects in weldments, forgings, castings, parts produced by plastic forming … Discontinuities and defect features and causes of their evolution.</td><td>4</td></tr>
<tr><td colspan="5">Energies used in material testing and characterisation – electro-magnetic radiation (EM), particles, mechanical vibrations. Energy – material interaction – attenuation, absorption, emission, ionisation, difraction, scattering, interference …
Fundamentals of qualitative and quantitative chemical composition analysis. Equipment and methods for chemical composition analysis – spot and spark testing, atomic and absorptive and emission spectroscopy. Brief info about other spectroscopic methods of bulk or surface chemical analysis (XPS, AES, PIXE, XRF…) and about classical chemical analysis. Portable instruments for quick industrial</td><td>4</td></tr>
</table>

	and quality control of material chemical composition.	
	Materialography – material structure testing and characterisation. Metallographic sample preparation – stages in mechanical sample preparation, macro- and micro etchants and electrolytic etching of structural alloys. Metallographic equipment for sample preparation. Basic types and features of light, electron and probe microscopes (SEM, TEM, HRTEM, AFM…). Short info about microscopy techniques, micro hardness measurements and spot analysis of chemical composition. Quantitative metallography and softwares for grain size determination. X-ray diffraction.	6
	Fractography – broken surfaces analyse and features of main fracture types.	2
	Principles and methods of non-destructive testing. Sensitivity and reliability of NDT. Main industrial and research applications. Features of and execution of naked eye and instrumented visual testing. Equipment for VT. Principles, features, execution and equipment for penetrant dye and penetrant fluorescent testing. Physical background and characteristics of magnetic and electro-magnetic testing – magnetic particle, magnetic leakage, Barkhausen method and eddy current testing. Magnetisation equipment and inspection systems.	4
	Physical background, features, methods and techniques of ultrasonic material testing – echo, TR, TOFD, “phased array”, immersion technique. Application of ultrasonics for determination of physical properties. Equipment for UT and inspection systems. Physical background, features, methods and techniques of radiographic x-ray and gamma-ray testing. Microfocus x-ray and computer tomography. Equipment for RT and inspection sytems.	4
	Other NDT methods – thermal methods, acoustic emission, leak testing … NDT rules and specifications.	2
	List of laboratory exercises	LE hours
	Practical demonstration of metallic sample preparation for metallography and light optical microscopy.	4
	Practical analysis of microstructure on light microscope.	2
	Practical preparation of weld metallographic sample for weld and heat affected zone evaluation by LOM and measurement of hardness profile..	3
	Characterisation of fatigue, brittle and ductile fracture on stereo light microscope.	2
	Analysis and determination of grain size.	2
	Practical demonstration of dye and fluorescent penetrant testing.	3
	Practical demonstration of wet and dry magnetic particle testing. Colored and fluorescent MP inspection.	3
	Practical ultrasonic inspection by echo and TR method. Metal thickness measurement by ultrasound.	4
	Demonstration od radiograšhic testing outcome. Analysis of weld defects by aid of radiograms.	3
	An educational and professional excursion and visit to a company dealing with NDT or chemical composition analysis (an additional but nonmandatory learning opportunity for students).	(3)
Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)

<table>
<tr><td></td><td colspan="6">☐ field work</td><td></td></tr>
<tr><td>Student responsibilities</td><td colspan="7">Mandatory minimum attendance: 70 % for the lectures and 85 % for lab exercises.</td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>1,5</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td>0,5</td><td>Report</td><td></td><td>Individual work</td><td>1</td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>1</td><td>Laboratory exercises</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td></td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="7">Students can choose to complete the course by two midterm exams during semester (plus short oral examination) or by the regular written exam (and a short oral examination) after complete execution of lectures and exercises. Required minimum level of adopted knowledge which students have to satisfy is 50 %.
Following grading scheme is to be applied: grade (2) or sufficient require 50 % to 61 % successfully and satisfactorily adopted knowledge, grade (3) or good for 62 % to 74 %, grade (4) or very good for 75 % to 87 % and grade (5) or excellent is administered for 88 % and more. Seminar can improve the final grade.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td colspan="4">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="4">ASM Handbook: Metallography and Microstructures, Vol. 9, 2004.</td><td></td><td></td></tr>
<tr><td colspan="4">ASM Handbook: Failure Analysis and Prevention, Vol. 11, 2002.</td><td></td><td></td></tr>
<tr><td colspan="4">ASM Metals Handbook: Nondestructive Evaluation and Quality Control, Vol. 17, 1989.</td><td></td><td></td></tr>
<tr><td colspan="4">N. Krnić: Ispitivanja materijala, handouts</td><td></td><td></td></tr>
<tr><td colspan="4">Krstelj, V.: Ultrazvučna kontrola, selected chapters, FSB, 2003.</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="7">Other publications in Croatian and English language and selected WEB sites dealing with characterisation and non-destructive testing of engineering materials

Specifications of professional and classification societies like Croatian Register of Shipping</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="7">- Encourage students to attend the lectures and exercises and to control it
- Evaluation of results in accordance with the learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="7"></td></tr>
</table>

NAME OF THE COURSE	THERMODYNAMICS						
Code	FESE05	Year of study	3				
Course teacher	Frano Barbir, Ph. D., Full Professor	Credits (ECTS)	6				
Associate teachers	Ivan Tolj, Ph. D., Teaching assistant	Type of instruction (number of hours)	L	S	AE	LE	DE
			45	0	30	0	0
Status of the course	Obligatory	Percentage of application of e-learning					

COURSE DESCRIPTION

Course objectives	Training students for: - understanding of the basic concepts and laws of thermodynamics - application of the concepts and laws of thermodynamics to energy processes and systems		
Course enrolment requirements and entry competences required for the course	Mathematics 2		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - explain the basic concepts and laws of thermodynamics - apply the concepts and laws of thermodynamics to the different types of a simple technical energy process - calculate the mass balance and simple balance of different types of energy flows - calculate the efficiency of the process and energy systems - link effects of all studied processes by changes in the environment		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L or S hours	AE hours
	The subject of thermodynamics, two external impacts (work, heat) and pressure, volume and temperature as state functions. State equation of ideal gas.	3	2
	Two ways to express quantity of the substances. Mixture of ideal gases. Thermal expansion of solids and liquids.	3	2
	The first law of thermodynamics, internal energy and its connection with measurable state functions. Caloric state equation of ideal gas. Application of the first law on ideal gas.	3	2
	Isobaric, isochoric, isothermal and adiabatic processes. Polytropic processes. Cycle processes. Otto, Diesel and Carnot cycle. Internal and external non-equilibrium processes.	3	2
	The second law of thermodynamics. Two consequences of the second law. The analytical expression of the second law for equilibrium processes. Connection of entropy with measurable state functions of ideal gases. The analytical expression of the second law of nonequilibrium processes.	3	2
	Flow processes. Enthalpy and technical work. The first law of thermodynamics for flow processes. The term for steady work flow process. Damping. Typical technical flow processes with heat exchange without work. The processes with work and without heat.	3	2
	Real gases – p-V diagrams instead of the state equation Molière h-s diagram and T-s diagram. Using charts and tables. Rankine Clausius cycle with and without steam overheating. The concept of regeneration, efficiency and simplified	3	2

	schemes of steam - power plants.		
	Knowledge test – first midterm exam	3	
	Cooling power plants cycles and coefficient of performance. The main properties of refrigerants. Heat pumps.	3	2
	Humid air and h-x diagram. Humid air typical processes.	3	2
	Fuel combustion. Numerical characterization of the fuel and combustion: heat of combustion, adiabatic combustion temperature and ignition temperature of the fuel. Required air amount. Determination of air excess from the composition of the combustion products.	3	2
	Heat transfer: three different mechanisms. Heat conduction.	3	2
	Convective heat transfer. The physical mechanism of convection, heat transfer coefficient and Nu number. The process of determining the heat transfer coefficient	3	2
	Heat transfer by radiation. The term black body and "black" radiation. Overall heat transfer coefficient, ribs surface. Heat exchangers. Heat exchanger calculations.	3	2
	Knowledge test – second midterm exam	3	

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	2	Research		Practical training	
	Experimental work		Report		Individual work	3
	Essay		Seminar essay		(Other)	
	Tests	1	Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During semester there are two midterm exams. Upon completion of the semester the first and second final exam are held as well as corrective and commission exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. The midterms are carried out as written tests. The requirement for passing grade is 50 % points on each midterm exam. Grade (in percentage) is formed according to the formula: Grade(%) = (M1+M2)/2 M1, M2 – test results The final grade is determined by applying an absolute way of evaluation. The final grade is determined according to the points as follows: from 50% to 61% of the points score mark (2), from 62% to 74% mark (3), from 75% to 87% of the points mark (4) , from 88% to 100% mark (5) Under Article 71 of the Faculty Statute, the student is required to participate in all forms of teaching and attend lectures and exercises at least 70%. If students do not meet these requirements they will not be allowed to write exams.

Required literature (available in the	**Title**	**Number of copies in**	**Availability via other media**

library and via other media)		**the library**	
	O. Fabris, Osnove Inženjerske termodinamike, Pomorski fakultet Dubrovnik, 1994		
Optional literature (at the time of submission of study programme proposal)	- I. Ninić, Uvod u termodinamiku i njene tehničke primjene, Sveučilište u Splitu, 2007. - F. Bošnjaković, Nauka o toplini I dio, Školska knjiga Zagreb, 1976.		
Quality assurance methods that ensure the acquisition of exit competences	- Evaluation of results in accordance with the above learning outcomes - Feedback from students via surveys - Self-evaluation of teachers Institutional and non-institutional evaluations		
Other (as the proposer wishes to add)			

NAME OF THE COURSE	TRIBOLOGY						
Code	FETC11	Year of study	3				
Course teacher	Dražen Živković, Ph. D., Full Professor	Credits (ECTS)	4				
Associate teachers	----------	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	30	0	0
Status of the course	elective	Percentage of application of e-learning	0				

COURSE DESCRIPTION

Course objectives	Training students for: - Introduction to basic tribological wear mechanisms. - Basic types of wear of materials and construction, as well as monitoring wear process. - The basic methods of friction control and wear, as well as the principle of material selectin for tribological pairs.		
Course enrolment requirements and entry competences required for the course	Passed exams: Materials 1 Materials 2		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Classify the fundamental tribological wear mechanisms - Describe the wear types of materials - Assess tribological properties of materials - Characterize the tribological mechanisms of corrosion and material damage - Collect data to analyze the tribological wear - Choose the type of lubricant due to the mechanisms of wear and tear		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	hours
	Introduction to tribology, historical development, importance of tribology in industrial production	2	
	Surfaces: physical and chemical properties of the surface, surface (conformal) contact, concentrated (conforming) contact	2	
	Systematic approach to tribological problems, processes of friction (slip, rolling)	2	
	The wear mechanisms I: abrasion, adhesion, abrasion and adhesion wear resistance	2	
	The wear mechanisms II: surface fatigue, corrosion wear, fatigue resistance and surface protection	3	
	Wear processes, wear monitoring	3	
	Tribological control - the materials selectin of tribological parts	2	
	First midterm exam		
	Distribution of wear cases I: slip wear, rolling wear, fatigue wear, fretting	2	
	Distribution of wear cases II: abrasive wear, erosion particles, erosion, cavitation erosion	2	
	Lubricants, the role of lubricant in tribological-systems, hydrodynamic lubrication	2	
	Elasto-hydrodynamic lubrication, mixed lubrication, limit state lubrication	2	
	Conventional and new tribological materials (ceramics,	2	

	diamonds, diamond films, composite coating)		
	Identification of the basic tribological systems in metal processing, the basic of tribometry	2	
	Second midterm exam		
	AV content		AV hours
	Tribological losses in the maintenance of machines		2
	Analysis of tribological losses on tools and devices in the metal processing industry		3
	Selection of wear resistant materials		2
	Estimation of the relative resistance to abrasive wear mechanism based on the analysis of microstructures		2
	Tribological system: cereals - tubular transport		3
	Tribological processes at the basic elements of the cement production plant		2
	New processes for surface modifying		2
	First midterm exam		
	Testing methodology for wear dynamics contact (type metal-polymer)		2
	Sliding wear laboratory test methods		3
	Tribological mechanisms for large low-speed diesel engine		3
	Second midterm exam		

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities		

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1	Research		Practical training	
	Experimental work		Report		Self-directed learning	2
	Essay		Seminar essay		AV	1
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the semester there will be two mid-term exams (tests). The first mid-term, after 7 weeks of classes and the second after the next 6 weeks of classes. At the final exam students have to take part material that did not pass the mid-term. Each test is carried out as written exam lasting 45 minutes. Usually it consists of three tasks. The requirements for a positive evaluation are: positive assessment of exercises and 50% points on each test. The final grade is based on the resulting percentage on mid-term exams. Percentage - Rating 50% to 61% - sufficient (2) 62% to 74% - good (3) 75% to 87% - very good (4) 88% to 100% - excellent (5) Examinations according to the Faculty schedule! The final grade is determined after the second final exam. Students who did not pass the exam after two final exams have the last chance to pass exam in the autumn period where they can get a positive grade. Overall material has to be

<table>
<tr><td></td><td colspan="3">passed at last possible exam. The written exam consists of six tasks. The exam lasts 90 minutes.</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>D. Živković: the author's lectures, FESB</td><td></td><td>E-learning portal</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">V. Ivušić. “Tribologija”, HDMT, Zagreb, 1998</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Evaluation of results in accordance with the above learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers
- Institutional and non-institutional evaluations</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

NAME OF THE COURSE	WORK AND TIME STUDY						
Code	FETE03	Year of study	3.				
Course teacher	Boženko Bilić, Ph.D. Full Professor	Credits (ECTS)	4				
Associate teachers	Nikola Gjeldum, Ph.D. Assistant Professor	Type of instruction (number of hours)	L	S	AE	LE	DE
			30	0	15	15	0
Status of the course	Obligatory	Percentage of application of e-learning	0				

COURSE DESCRIPTION			
Course objectives	Teach students how to use methods for determine work time and methods for improvement work. Goals: reducing the fatigue of workers, increase safety of workers, reducing costs and increasing productivity		
Course enrolment requirements and entry competences required for the course	Completed the first year of undergraduate study. Competencies and skills acquired in the subject Probability and statistics.		
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Students will be able to: - Time keeping of production process duration - Determine Performance rating - Use of statistical tools and methods in the analysis, comparison and validation of measurement results - Determine the time standard for the performance of work tasks - Collect data and analyze losses at work - Collect the data necessary to improve the work on the workplace		
Course content broken down in detail by weekly class schedule (syllabus)	Course content	L hours	AE hours
	The science of work, organization of work and organization of production. Introduction in industrial engineering.	2	0
	Organizational structure.	2	0
	Introduction in Work and Time Study. MANUFACTURING AND PRODUCTION PROCESS: Definition of production system, production and manufacturing process. The basic elements of manufacturing processes.	2	0
	STUDY AND ANALYSIS OF TIME: Time standard. Components of working time.	2	1
	STUDY AND ANALYSIS OF TIME: Methods for determining the production (working) time: recording (stopwatch time study, recording by camera), predetermined motion time systems, formulas for machine work.	2	2
	STUDY AND ANALYSIS OF TIME: Analysis of the recorded data of time and performance ratings. Monitoring the execution of standard time.	2	2
	STUDY AND ANALYSIS OF TIME: Performance rating.	2	2
	First midterm exam.		
	STUDY AND ANALYSIS OF TIME: The work of a worker on multiple machines.	2	2
	STUDY AND ANALYSIS OF TIME: Types of losses during the work. Analysis of time losses - image of work day, method of current observations.	2	2
	IMPROVEMENT OF WORK: Selection of problem. Recording the current state. Analysis of existing state and determining	4	2

	the better work methods. Implementation of better work method.		
	The impact of work and time study on the economic effects - the scale of business success in the enterprise.	1	0
	Basics of manufacturing ergonomy.	3	0
	Hazards at work.	1	0
	Second midterm exam.		
	List of laboratory exercises		LE hours
	Timekeeping error.		1
	Flow method of recording time.		2
	Feedback method of recording time		2
	Performance rating.		3
	Standard time calculation.		2
	Simultaneous work of worker on multiple machines.		3

Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☐ field work	☐ independent assignments ☒ multimedia ☒ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	The presence on lectures and exercises in the amount of at least 70 % of the times scheduled. Perform all laboratory exercises.	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1,5	Research		Practical training	
	Experimental work		Report		Individual work	2
	Essay		Seminar essay		Laboratory exercises	0,5
	Tests	0	Oral exam		Preparation for laboratory exercises	0
	Written exam	0	Project	1	(Other)	

Grading and evaluating student work in class and at the final exam

During semester there are two midterm exams. The first midterm exam is after 7 weeks of lecturing and the second one is after the next 6 weeks. The student can take the first midterm exam if he/she regularly attended classes. Requirements for access to the second midterm exam are: regularly attended classes and at least 25% of points achieved at the first midterm.
Midterm exams are conducted in written form. They consist of theoretical questions and numerical problems. The teacher reserves the right to hold a midterm exam in oral form. The requirement for passing grade represents minimal 50% points on each midterm exam:

$$\text{Grade (\%)} = 0{,}5(M1 + M2)$$

M1 – first midterm grade (%), i.e. percentage points achieved on the first midterm
M2 – second midterm grade (%), i.e. percentage points achieved on the second midterm
Requirement for access to the final exams is regularly attended classes. In the first two final exams students that did not pass at least one of the midterm exams take part. In the third and fourth final exams students take the whole exam regardless results of midterm exams. Final exams are conducted in written form. They consist of theoretical questions and numerical problems. The teacher reserves the right to hold a final exams in oral form. The requirement for passing grade is positive assessment in exam. Positive assessment represents minimal 50% points on final exam.

Grade (%):	Final mark:
50% - 60%	sufficient (2)

<table>
<tr><td></td><td colspan="3">61% - 75% good (3)
76% - 90% very good (4)
91% - 100% excellent (5)

Grade (%) is average points achieved on midterm exams expressed as a percentage or number of points achieved on the final exam expressed as a percentage.</td></tr>
<tr><td rowspan="5">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>D. Taboršak: Studij rada, Orgadata, Zagreb, 1994.</td><td>5</td><td></td></tr>
<tr><td>A. Polajnar: Študij dela, Univerza v Mariboru, Fakulteta za strojništvo, 1999.</td><td>0</td><td></td></tr>
<tr><td>*** “Inženjerski priručnik 4 -sv. 3: Proizvodno strojarstvo”, str. 131-194, Školska knjiga, Zagreb 2002.</td><td>0</td><td></td></tr>
<tr><td>M. Car, M. Krznar, K. Šimon: Studij rada – zbirka zadataka i rješenja, Liber, Zagreb, 1983.</td><td>0</td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">- B. Bilić: Predavanja postavljena na e-learning portalu
- B. Bilić: Studij rada i vremena: formule, dijagrami obrasci, FESB, Split, 2010.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">- Keeping records of the attendance of students
- Annual evaluation of results in accordance with the above learning outcomes
- Feedback from students via surveys
- Self-evaluation of teachers</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

3. STUDY PERFORMANCE CONDITIONS

3.1. Places of the study performance

Buildings of the constituent part (name existing, under construction and planned buildings)	
Identification of building	FESB
Location of building	R. Boškovića 32
Year of completion	1980. phase 1, 2008. phase 2
Total square area in m^2	29.477

3.2. List of teachers and associate teachers

Course	Teachers and associate teachers
Accounting	Branka Ramljak, Ph. D., Full Professor Ivana Perica, Teaching assistant
Business Systems Organisation	Ivica Veža, Ph. D., Full Professor, Ivan Matić, Ph. D., Assistant Professor Nikola Gjeldum, Ph. D., Assistant Professor
Communication Skills in English	Mirjana M. Kovač, Ph.D., Assistant Professor Nina Sirković, Ph.D., Assistant Professor
Computer- Aided Analysis	Damir Vučina, Ph. D., Full Professor Igor Pehnec, Ph. D., Assistant Professor Ivo Marinić- Kragić, Teaching Assistant
Computer Aided Design 1	Gojko Magazinović, Ph. D., Full Professor Ivan Pivac, Teaching Assistant
Design for Manufacturing	Nikola Gjeldum, Ph. D. Assistant Professor Marina Crnjac, Teaching Assistant Ivan Peko, Teaching Assistant
Design of Industrial Products	Željko Domazet, Ph. D., Full Professor Lovre Krstulović-Opara, Ph. D., Full Professor
Electrical Engineering	Ivica Jurić-Grgić, Ph. D., Associate Professor Nedjeljka Grulović – Plavljanić, Teaching Assistant Ivan Krolo, Teaching Assistant
Engineering Graphics 1	Željko Domazet, Ph.D., Full Professor Miro Bugarin, Ph.D., Assistant Professor, Ivan Špar, Teaching Assistant Dejan Bobić, Teaching Assistant, Joško Kunac, Teaching Assistant, Petra Bagavac, Teaching Assistant
Engineering Graphics 2	Tonči Piršić, Ph. D., Associate Professor Petra Bagavac, Teaching Assistant Miro Bugarin, Ph. D., Assistant Professor Ivan Špar, Teaching Assistant Joško Kunac, Teaching Assistant Dejan Bobić, Teaching Assistant
English Language 1	Mirjana M. Kovač, Ph.D., Assistant Professor
English Language 2	Mirjana M. Kovač, Ph.D., Assistant Professor
Experimental Methods in Engineering	Željko Domazet, Ph. D., Full Professor Lovre Krstulović-Opara, Ph. D., Full Professor
Final Thesis	

Finance	Josip Visković, Ph.D., Assistant Professor
Fundamentals of Microeconomics	Ivan Pavić, Ph. D., Full Professor Maja Pervan, Ph. D., Associate Professor Josipa Višić, Ph. D., Assistant Professor
Fluid Mechanics	Branko Klarin, Ph. D., Full Professor Maja Zore, Teaching Assistant
Industrial Property	Jozo Čizmić, Ph.D., Full Professor
Introduction to Information Systems	Damir Vučina, Ph. D. Full Professor Igor Pehnec, Ph. D. Teaching Assistant Ivo Marinić- Kragić, Teaching Assistant Milan Ćurković, Ph. D., Teaching Assistant
Introduction to Public Speaking	Mirjana M. Kovač, Ph.D., Assistant Professor
Machine Elements	Srdjan Podrug, Ph.D., Full Professor Vjekoslav Tvrdić, Teaching Assistant
Macroeconomics	Petar Filipić, Ph.D., Full Professor Lena Malešević Perović, Ph.D., Associate Professor Bruno Ćorić, Ph.D., Assistant Professor
Management	Nikša Alfirević, Ph.D., Full Professor Željko Mateljak, Ph. D., Teaching Assistant Anita Talaja, Ph. D., Teaching Assistant
Materials 1	Nedjeljko Mišina, Ph. D., Full Professor Dražen Živković, Ph. D., Full Professor Nikša Čatipović, Teaching assistant Zvonimir Dadić, Teaching assistant
Materials 2	Nedjeljko Mišina, Ph. D., Full Professor Dražen Živković, Ph. D., Full Professor Nikša Čatipović, Teaching assistant Zvonimir Dadić, Teaching assistant
Mathematics 1	Ivan Slapničar, Ph.D., Full Professor, Anita Matković, Ph.D., Associate Professor, Josipa Barić, Ph.D., Assistant Professor Ph.D. Nevena Jakovčević Stor, mr. sc. Ivančica Mirošević, Irena Bego, Anita Carević, Marija Čatipović, Lea Dujić, Ivana Grgić, Lana Periša, Marina Mandić, Dajana Radišić, Mirjana Strukan, Stjepan Vedran Vukasović, Vanja Županović
Mathematics 2	Ivan Slapničar, Ph.D., Full Professor, Anita Matković, Ph.D., Associate Professor, Josipa Barić, Ph.D., Assistant Professor Ph.D. Nevena Jakovčević Stor, mr. sc. Ivančica Mirošević, Irena Bego, Anita Carević, Marija Čatipović, Lea Dujić, Ivana Grgić, Lana Periša, Marina Mandić, Dajana Radišić, Mirjana Strukan, Stjepan Vedran Vukasović, Vanja Županović
Mechanics 1	Frane Vlak, Ph. D., Associate Professor Branka Bužančić-Primorac, Ph. D., Teaching assistant
Mechanics 2	Željan Lozina, Ph. D., Full Professor Damir Sedlar, Ph. D., Assistant Professor Tomac Ivan, Ph. D., Assistant Professor
Mechanics of Materials	Frane Vlak, Ph. D., Associate Professor Marko Vukasović, Ph. D., Teaching assistant
Metal Structures Design	Željko Domazet, Ph. D., Full Professor Lovre Krstulović-Opara, Ph. D., Full Professor Miro Bugarin, Ph. D., Assistant Professor
Modern material processing technologies	Nikša Krnić, PhD, Associated professor
Noise and Vibration Control	Željan Lozina, Ph. D., Full Professor

	Damir Sedlar, Ph. D., Assistant Professor
Physics	Ivica Puljak, Ph.D., Full Professor, Nikola Godinović, Ph.D., Associate Professor,Ilja Doršner, Ph.D., Associate Professor, Damir Lelas, Ph.D., Assistant Professor
Principles of Economics	Zlatan Reić, Ph. D., Full Professsor Maja Mihaljević Kosor, Ph. D., Assistant Professor Vladimir Šimić, Ph. D., Teaching assistant
Professional Training	Head of the professional training from the Faculty Head of the professional training from the private institution
Statistics	Ante Rozga, Ph. D., Full Professor
Technology 1	Nedjeljko Mišina, Ph.d. full professor Dražen Živković, Ph.d. full professor
Technology 2	PhD Dražen Bajić, Professor PhD Branimir Lela, Assistant professor Sonja Jozić, Ph.D., Assistant professor Jure Krolo, Teaching assistant Mario Veić, Teaching assistant
Testing of materials	Nikša Krnić, PhD, Associate professor
Thermodynamics	Frano Barbir, Ph. D., Full Professor Ivan Tolj, Ph. D., Teaching assistant
Tribology	Dražen Živković, Ph. D., Full Professor
Work and Time Study	Boženko Bilić, Ph.D. Full Professor Nikola Gjeldum, Ph.D. Assistant Professor

3.3. Curriculum vitae of the course teacher

First and last name and title of teacher	**Nikša Alfirević**
The course he/she teaches in the proposed study programme	Management
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ruđera Boškovića 5, Split
Telephone number	098 85 22 69
E-mail address	nalf@efst.hr
Personal web page	
Year of birth	1972
Scientist ID	232134
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor (tenured), 30.6.2016.
Area and field of election into research or art rank	Full professor (tenured), social sciences, economics (management and organization)
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, Faculty of Economics
Date of employment	1.10.1996.
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Management and organization; IT management
Function	Professor
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD (economics); PhD (sociology)
Institution	University of Split – Faculty of Economics; University of Klagenfurt
Place	Split (Croatia); Klagenfurt (Austria)
Date	2003; 2009
INFORMATION ON ADDITIONAL TRAINING	
Year	2011-2013
Place	Klagenfurt
Institution	Alpen Adria University of Klagenfurt
Field of training	Erasmus mobility – planning, implementation and teaching on the international graduate (master) programs, delivered in English
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English – 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German – 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme	Teaches courses *Management, Change management, Business intelligence* and *E-business* on undergraduate and graduate level at the Faculty of Economics Split

where it is/was offered, and level of study programme)	
Authorship of university/faculty textbooks in the field of the course	1. Alfirević, Nikša; Pavičić, Jurica; Najev Čačija, Ljiljana; Mihanović, Zoran; Matković, Jelena. Osnove marketinga i menadžmenta neprofitnih organizacija. Zagreb : Školska knjiga, Institut za inovacije, 2013 (approved by University of Split) 2. Upravljanje organizacijskim promjenama i znanjem / Alfirević, Nikša; Garbin Praničević, Daniela; Talaja, Anita (Eds.). Split : Ekonomski fakultet Split, 2014 (approved by University of Split)
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Alfirević, Nikša; Talaja, Anita. Managing Knowledge through Dynamic Capabilities // Learning Models for Innovation in Organizations: Examining Roles of Knowledge Transfer and Human Resources Management / Soliman, Fawzy (Eds.). Hershey (PA), USA : IGI Global Inc, 2014. pp. 157-172. 2. Alfirević, N.; Dorotić, M.; Hajdić, M. Novel customer collaboration and networking tools for cultivating external information // Proceedings of the 9th IFKAD (International Forum on Knowledge Asset Dynamics): Knowledge and Management Models for Sustainable Growth / Carlucci, D. ; Spender, J.C. ; Schiuma, G. (Eds.). Basilicata : Institute of Knowledge Asset Management, Arts for Business Institute & University of Basilicata, 2014. pp. 1334-1345. 3. Alfirević, Nikša; Pavičić, Jurica; Gnjidić, Vladimir. Cognitive Structure, Managers' Shared Social Understanding: From Psychological and Sociological Concepts to Managerial Strategic Choices. // Zagreb International Review of Economics and Business. 17 (2014), 2; 83-96. 4. Alfirević, N. Oblici upravljanja znanjem i unapređenja poslovnih procesa // Utjecaj organizacijskih varijabli na uspjeh programa unapređenja poslovnih procesa (Empirijsko istraživanje) / Buble, M. (Eds.). Split : Ekonomski fakultet Split, 2012. pp. 101-106. 5. Dulčić, Ž.; Alfirević, N.; Gnjidić, V. From Five Competitive Forces to Five Collaborative Forces: Revised View on Industry Structure-firm Interrelationship. // Procedia - Social and Behavioral Sciences. 58 (2012); pp. 1077-1084.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1. Međunarodni andragoški simpozij: Ključne kompetencije i učenje odraslih / Pavkov, Marija; Alfirević, Nikša (ur.). Zagreb : Agencija za strukovno obrazovanje i obrazovanje odraslih, 2013.
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	2009 – Annual award of the University of Split – Faculty of Economics 2009 – Annual award Mijo Mirković of the University of Zagreb – Faculty of Economics and Business, for scientific work

First and last name and title of teacher	**Dražen Bajić, Ph.D., Full Professor**
The course he/she teaches in the proposed study programme	1. Technology 2
GENERAL INFORMATION ON COURSE TEACHER	
Address	Julija Klovića 16 B, 21000 Split
Telephone number	091 430 59 31
E-mail address	dbajic@fesb.hr
Personal web page	
Year of birth	1965.
Scientist ID	186 194
Research or art rank, and date of last rank appointment	Scientific Adviser, 12/4/2006
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full Professor, 25/1/2013
Area and field of election into research or art rank	Technical Sciences, Mechanical engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	15/7/1991
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Manufacturing engineering, machining, machine tools
Function	Head of Chair of Mechanical Engineering Technology
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture
Place	Zagreb
Date	17/4/2000
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German (2)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	**Undergraduate study:** 2. Technology 2 (130) **Graduate study:** 1. Computer aided manufacturing (261,262,263) 2. Machine tools (261, 263)

	3. Machine tools and systems (270) 4. Sustainable production (272) **Professional study:** 1. Machining and machine tools (530) 2. Computer aided manufacturing (530) 3. Manufacturing processes (540) **Postgraduate study:** 1. Modern machining processes (330) 2. Rapid manufacturing (330)
Authorship of university/faculty textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Jozić, Sonja; Bajić, Dražen; Celent, Luka. Application of compressed cold air cooling: achieving multiple performance characteristics in end milling process. // Journal of cleaner production. 100 (2015) , /; 325-332 2. Jozić, Sonja; Bajić, Dražen; Stoić, Antun. *Flank wear and surface roughness in end milling of hardened steel* // Metalurgija. 54 (2015), 2; 343-346. 3. Jozić, Sonja; Lela, Branimir; Bajić, Dražen. A New Mathematical Model for Flank Wear Prediction Using Functional Data Analysis Methodology. // Advances in Materials Science and Engineering. 2014 (2014) ; 1-8 4. Jozić, Sonja; Bajić, Dražen; Samardzić, Ivan. Contribution to the assessment of economic viability of hard milling process. Tehnički vjesnik: znanstveno-stručni časopis tehničkih fakulteta Sveučilišta u Osijeku (1330-3651) 21 (2014), 6; 1329-1336. 5. Bajić, Dražen; Celent Luka; Jozić, Sonja. *Modeling of the influence of cutting parameters of the surface roughness, tool wear and cutting force in face milling in off-line process control*. // Strojniški vestnik – Journal of Mechanical Engineering. 58 (2012), 11; 673-682
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	- Bajić, D., Celent, L., Jozić, S., Design and 3D printing of bottles for designing of bottling plant, (Ordered by: Viloet Logistics Ltd., Obrež Zelinski), Split, 2013. - Bajić, D., Celent, L., Jozić, S., Design and manufacture of molds for steering of student formula (Ordered by: UPS, Split), Split, 2012 - Bajić (PL), I. Veža, B. Bilić, S. Jozić, L. Celent, N. Koboević. High speed machining research, Ministry of science, education and sport, Croatia, - 2012
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	- Gold medal and plaque for innovation "Planning and optimization of manufacturing system by using simulation" at the Spring Exhibition of Inventions INOVA'95 Zagreb, 1995.

	- Jubilee plaques and medals Croatian Association of Production Engineering for outstanding contribution to the work of HUPS's, and for the benefit of scientific and economic development of the Republic of Croatia, Zagreb, 2000. - Gold Medal Croatian Association of Production Engineering for Outstanding Contribution to the work of HUPS's, and for the benefit of scientific and economic development of the Republic of Croatia, Zagreb, 2003. - Gold Medal Croatian Association of Production Engineering for Outstanding Contribution to the work of HUPS's, and for the benefit of scientific and economic development of the Republic of Croatia, Zagreb, 2005
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Frano Barbir, Ph. D., Full Professor**
The courses he/she teaches in the proposed study programme	Thermodynamics
GENERAL INFORMATION ON COURSE TEACHER	
Address	R. Boskovica 32
Telephone number	+385 21 305 953
E-mail address	fbarbir@fesb.hr
Personal web page	www.fesb.hr/~fbarbir
Year of birth	1954
Scientist ID	124283
Research or art rank, and date of last rank appointment	Scientific advisor, 05.07.2006.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full tenured professor 26.09.2011.
Area and field of election into research or art rank	Area of technical sciences, field mechanical engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split
Date of employment	01.10.2006
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Thermodynamics, Renewable energy sources, hydrogen technologies
Function	Chair of Thermodynamics, Thermo-technics and heat engines
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD in Mechanical Engineering
Institution	University of Miami
Place	Coral Gables, FL, SAD
Date	18. December 1992.
INFORMATION ON ADDITIONAL TRAINING	
Year	1995
Place	Cleveland
Institution	Case Western Reserve University
Field of training	Electrochemical measurements
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English – 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian – 2
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	1. Special Topics in Mechanical Engineering: Fuel Cells Engineering, University of Connecticut (2002 - 2005) diplomski i poslijediplomski studij 2. Special Topics in Mechanical Engineering: Fuel Cells Modeling, University of Wyoming (2012 - 2013) diplomski i poslijediplomski studij
Authorship of university/faculty textbooks in the field of the course	1. F. Barbir, PEM Fuel Cells: Theory and Practice, 2nd edition, Elsevier/Academic Press, Burlington, 2013.

Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. D. Bezmalinović, B. Šimić, F. Barbir, Characterization of PEM fuel cell degradation by polarization change curves, *Journal of Power Sources*, Vol. 294, (2015) pp. 82-87 2. E. Özden, I. Tolj, F. Barbir, Designing heat exchanger with variable surface area for passive cooling of PEM fuel cell, J. Appl. Thermal Eng., Vol. 51, No. 1–2, (2013), pp. 1339-1344 3. D. Bezmalinovic, F.Barbir I. Tolj, Techno-economic analysis of PEM fuel cells role in photovoltaic-based systems for the remote base stations, Int. J. Hydrogen Energy, Vol. 38, No. 1, (2013) pp. 417-425. 4. I. Tolj, D. Bezmalinovic, F.Barbir, Maintaining desired level of relative humidity throughout a fuel cell with spatially variable heat removal rates, Int. Journal Hydrogen Energy, Vol. 36, No. 20, (2011) pp. 13105-13113. 5. O. Atlam, F. Barbir, D. Bezmalinovic, A Method for Optimal Sizing of an Electrolyzer Directly Connected to a PV Module, International Journal of Hydrogen Energy Vol. 36, No. 12, (2011) pp. 7012-7018.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	• Project Leader, R&D of Hydrogen Energy System in Conjunction with Renewable Energy Sources, European Regional Development Fund through Central Agency for Contracting and Financing of EU projects (2014-2016) • Project Leader, Water and Heat Management and Durability of PEM Fuel Cells), Croatian Science Foundation, 2015-2018 • Work Package Leader: System Automation of PEMFCs with Prognostics and Health management for Improved Reliability and Economy (SAPPHIRE), project leader: SINTEF, Norway, project financed by EC FCH Joint Undertaking, (FCH-JU), 2013-2016 • Work Package Leader: Development of Guidance Manual for LCA Application to Fuel Cells and Hydrogen Technologies, H2FC-LCA HyGuide, Project Leader: ENEA Italy, project financed by EC EC FCH Joint Undertaking, (FCH-JU), 2010-2011 • Project Leader: Passive fuel cells with oxygen supply from air by natural convection, Ministry of Science, Education and Sports, 2007-2013
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	„Training for teachers and administrative staff“ as a part of EU project ME4CatalOgue (Mechanical Engineering for Catalogue) 2013-2015
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	• National annual award for science in technical sciences, 2012 • University of Split plaque for exceptional contribution to University development through outstanding scientific,

	teaching and professional work, 2012
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	• FESB, Heat and Mass Transfer, 4.5/5 • University of Wyoming, Excellent, No grades- descriptive evaluation, Fuel Cell Engineering course, 2012,

First and last name and title of teacher	**Josipa Barić, Ph.D., Assistant Professor**
The course he/she teaches in the proposed study programme	Mathematics 1, Mathematics 2, Mathematics 3,
GENERAL INFORMATION ON COURSE TEACHER	
Address	FESB, R. Boškovića 32, B809
Telephone number	021 305899
E-mail address	josipa.baric@fesb.hr
Personal web page	
Year of birth	1974.
Scientist ID	248871
Research or art rank, and date of last rank appointment	scientific assistant
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, permanent position, since 2011.
Area and field of election into research or art rank	Area od Natural Sciences, Field of Mathematics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	FESB, Split
Date of employment	2001.
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Mathematics
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Ph.D.
Institution	PMF
Place	Zagreb
Date	January 2011.
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
Year	
Place	
Institution	
Field of training	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	

COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Lecturer of various courses since 2001.
Authorship of university/faculty textbooks in the field of the course	Ivan Slapničar, Josipa Barić i Marina Ninčević, Matematika 2 – zbirka zadataka, FESB, Split, 2010. (Manualia Universitatis studiorum Spalatensis) Barić, Josipa; Bibi, Rabia; Bohner, Martin; Nosheen, Ammara; Pečarić, Josip. Jensen Inequalities on Time Scales, Theory and Applications . Zagreb : Element, 2015
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Barić, Josipa; Jakšić, Rozarija; Pečarić, Josip. Converses of Jessen's inequality on time scales II. // Mathematical inequalities & applications. 19 (2016) , 4; 1271-1285. 2. Barić, Josipa; Bohner, Martin; Jakšić, Rozarija; Pečarić, Josip. Converses of Jessen's inequality on time scales. // Mathematical notes. 98 (2015) , 1; 11-24. 3. Barić, Josipa; Nosheen, Ammara; Pečarić, Josip. Time scale Hardy-type inequalities with general kernel for superquadratic functions. // Proceedings of A. Razmadze Mathematical Institute. 165 (2014) ; 1-18, 4. Barić, Josipa; Bibi, Rabia; Bohner, Martin; Pečarić, Josip. Time scales integral inequalities for superquadratic functions. // Journal of the Korean Mathematical Society. 50 (2013) , 3; 465-477
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Evaluations organized by the Quality Enhancement Centre of the University of Split each semester. Average grade is 4.5 on the 1-5 scale.

First and last name and title of teacher	**Boženko Bilić Ph.D., Full Professor**
The course he/she teaches in the proposed study programme	Work and Time Study
GENERAL INFORMATION ON COURSE TEACHER	
Address	Makarska ulica 2, 21000 Split, HR
Telephone number	+385 21 410 810
E-mail address	bbilic@fesb.hr
Personal web page	
Year of birth	1962.
Scientist ID	154905
Research or art rank, and date of last rank appointment	Scientific Adviser, 12/04/2006
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full Professor, 25/01/2013
Area and field of election into research or art rank	Technical Sciences, Field Mechanical engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	1/10/1987
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Production engineering and organization of production
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Ph.D.
Institution	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	30/6/2000
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Germany (2)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Vast experience in teaching these courses.
Authorship of university/faculty	

textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Veža, I., Bilić, B., Gjeldum, N., Mladineo, M., *Model of innovative smart enterprise*, Proceedings of the 6th International Conference on Mass Customization and Personalization in Central Europe (MCP-CE 2014) (ISBN 978-86-7892-626-6), str. 224-229, Novi Sad, Serbia, 2014. 2. Bilić, B., Veža, I., Crvelin, D., *Application of the SMED method in the injection molding process*, Proceedings of the 1st International Scientific Conference on Engineering: MAT 2010 - Manufacturing and Advanced Technologies, (ISSN 1986-9126), University Dzemal Bijedic, Faculty of Mechanical Engineering, str. 123-128, Mostar, 2010.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Training for teachers and administrative staff in the EU project ME4CataLOgue Croatian Catalogue of knowledge, skills and competences for mechanical engineering studies (Bachelor, Master and Doctoral study programmes) based on learning outcomes, Split, 2014
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	1. Croatian Association of Production Engineering – gold medal, Zagreb, 2005. 2. Innovation Fair INOVA'95 - Gold medal and a plaque for innovation "Production system planning and optimization by using simulation", Zagreb, 1995.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4.2

First and last name and title of teacher	**Jozo Čizmić, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Industrial Property
GENERAL INFORMATION ON COURSE TEACHER	
Address	HR- 21000 Split, Požeška 8
Telephone number	021 393-585
E-mail address	jcizmic@pravst.hr
Personal web page	WWW.pravst.hr
Year of birth	1958.
Scientist ID	188501
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full Professor, June 2014.
Area and field of election into research or art rank	Civil Procedure Law, Field of Law
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Law, University of Split
Date of employment	10. 11. 1988.
Name of position (professor, researcher, associate teacher, etc.)	Full Professor
Field of research	Civil procedure Law, Intellectual Property Law, Medicine Law
Function	Director of the «Medical Law Centar » on Faculty of Law University of Split Head of the "Institute for research of civil proceedings and cooperation with judiciary" on Faculty of Law University of Split Chairman of the expert Council of the Centar for Integrative bioethichs, Faculty of Philosophy Split, 23. June 2014.
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Prof.Ph.D.
Institution	Faculty of Law, University of Split
Place	Split
Date	June 2014.
INFORMATION ON ADDITIONAL TRAINING	
Year	2002.
Place	Berlin
Institution	Frei Universität Berlin
Field of training	Civil procedure law, Insolvency Law
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course	1/ „Industrial Property Law"", Integrated university studies of

teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	law on Faculty of law University of Split 2/ „Industrial Property Law“, Integrated university studies of law on Faculty of law University of Mostar (Bosnia and Herzegovina).
Authorship of university/faculty textbooks in the field of the course	1/ *Ogledi iz prava industrijskog vlasništva*, Split, 1998. 2/ *Ogledi iz prava industrijskog vlasništva - knjiga druga*, Mostar, 1999. 3/ *Komentar Zakona o žigu*, Zagreb, 2002. (koautorstvo D. Zlatović) *4/ Komentar Zakona o zastupanju u području prava industrijskog vlasništva*, Split, 2008. 5/ *Nove tehnologije, intelektualno vlasništvo i informacijska sigurnost*, Split, 2016.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	*Utjecaj razvoja Interneta kao svjetske infrastrukture na informacijsku sigurnost i mrežni prijenos podataka*", Zbornik radova međunarodne znanstveno-stručne konferencije “Internet, vlast i politika”, Kemerovo, 2013., ISBN 978-5-8353-1620-5, str. 286-305. *Utjecaj novih tehnologija na zaštitu tajnosti podataka i informacijsku sigurnost*, Zbornik radova sa znanstveno-stručnog skupa s međunarodnim sudjelovanjem „Pravo na pristup informacijama i zaštita osobnih podataka“, Pravni fakultet Sveučilišta u Splitu, Split, 2015., str. 67.-103.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	CARDS projekt: EU IPR – Capacity Building in Protection of Intelectual Property Rights in Bosnia and Herzegovina, SOFRECO, - expert.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Seminar for development and training of pedagogical competencies of university lecturers, CIRCO - Center for research and development of lifelong learning, 28. February 2013.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Appreciation Moot Court Croatia for generous help Moot Court competition Croatia, May 11, 2014. Award of the Student Union of the Law Faculty of the University of Split, in a sign of eternal gratitude and

	recognition for the understanding and appreciation of all the students' needs and interests, in Split, September 2015. Letter of thanks of State Intellectual Property Office, for holding Chapter 7 negotiations about Accession of Croatia to the European Union, to participate actively in Working group and valuable personal contribution to the successful closing of Chapter 7. (5. March 2009.)
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Bruno Ćorić, Ph.D., Assistant Professor**
The course he/she teaches in the proposed study programme	Macroeconomics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Cvite Fiskovića 5
Telephone number	+385 21 430 724
E-mail address	bcoric@efst.hr
Personal web page	
Year of birth	1975
Scientist ID	274282
Research or art rank, and date of last rank appointment	Assistant Professor, 17/5/2012
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant Professor, 17/5/2012
Area and field of election into research or art rank	Social sciences, Economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Economics
Date of employment	1/10/2001
Name of position (professor, researcher, associate teacher, etc.)	Assistant Professor
Field of research	Macroeconomics
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Staffordshire University
Place	Stoke on Trent, United Kingdom
Date	1/12/2008
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Undergraduate study program: Macroeconomics I and Macroeconomics II Graduate study program: Macroeconomics Management
Authorship of university/faculty	Ćorić Bruno i Malešević Perović Lena (2013), Makroekonomija

textbooks in the field of the course	teorija i politika, Sveučilište u Splitu Ekonomski fakultet, Split, ISBN 978-953-281-058-5
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	Ćorić, B. (2016), CIA Interventions, Tariff Changes, and Trade During the Cold War: A Variation and New Results, *Econ Journal Watch*, Vol. 13(2), pp. 192-199, Impact factor: 0.29. Ćorić, B., Malešević-Perović, L., and Šimić, V. (2016), Openness and the Strength of Monetary Transmission: International Evidence, *Acta Oeconomica*, forthcoming, Impact factor: 0.179. Ćorić, B., Malešević-Perović, L., and Šimić, V. (2015), A Cross-country Analysis of the Short-run Monetary Policy Effects on Prices, *Czech Journal of Economics and Finance*, Vol. 65(5), pp. 377-390, Impact factor: 0.420. Ćorić, B. and Pugh, G. (2013), Foreign Direct Investment and Output Growth Volatility, *International Review of Economics & Finance*, Vol. 25, pp. 260-271, Impact factor: 1.704. Ćorić, B. (2012), The Global Extent of the Great Moderation, *Oxford Bulletin of Economics and Statistics*, Vol. 74(4), pp. 493-509, Impact factor: 1.368.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	2011-2012 the principal investigator and team leader at the international research project 'Determinants of Monetary Policy Effectiveness: Worldwide Empirical Analysis' which was one of the winners of CERGE-EI Eleventh Annual GDN (Global Development Network) Regional Research Competition. 2017- the principal investigator and team leader at the HRZZ research project 'Effects of Economic Disasters' (IP-2016-06-4682)
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Development and improvement of the pedagogical competences of university teachers, 2014,
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	3,8/5

First and last name and title of teacher	**Željko Domazet, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Metal structures, Engineering graphics 1
GENERAL INFORMATION ON COURSE TEACHER	
Address	R. Boškovića 32
Telephone number	+385/21/305777
E-mail address	Zeljko.domazet@fesb.hr
Personal web page	www.fesb.hr
Year of birth	1954
Scientist ID	95632
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor – permanent position 2005.
Area and field of election into research or art rank	Technical sciences, mechanical engineering, general mechanical engineering (structures)
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split Faculty of Electr. Eng., Mech. Eng. and Naval Arch.
Date of employment	1980.
Name of position (professor, researcher, associate teacher, etc.)	Full professor - permanent position
Field of research	metal structures, fatigue
Function	head of Department of Mechanical Eng. And Naval Arch.
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Dr.sc.
Institution	FSB-Zagreb
Place	Zagreb
Date	1993.
INFORMATION ON ADDITIONAL TRAINING	
Year	1988., 1990.
Place	Darmstadt, Germany
Institution	Fraunhofer Institut fuer Betriebsfestigkeit
Field of training	Fatigue
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	

Authorship of university/faculty textbooks in the field of the course	L. Krstulović-O., Ž. Domazet: Dizajn industrijskih proizvoda V.Grubišić, Ž. Domazet: Pogonska čvrstoća-interna skripta Ž. Domazet, L. Krstulović-O., Skripta iz osnova strojarstva(KTF)
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Domazet, Željko; Lukša, Francisko; Stanivuk, Tatjana. **An optimal design approach for calibrated rolls with respect to fatigue life**. // *International journal of fatigue*. **59** (2014) ; 50-63 2. Krstulović-Opara, Lovre; Domazet, Željko; Garafulić, Endri. **Detection of osmotic damages in GRP boat hulls**. // *Infrared physics & technology*. **60** (2013.) ; 359-364 3. Domazet, Željko; Lukša, Francisko; Bugarin, Miro. **Fatigue Strength of the Rolls with Grooves**. // *Applied Mechanics and Materials*. **459** (2014) ; 330-334 4. Domazet, Željko; Lukša, Francisko; Stanivuk, Tatjana. **The influence of rolling speed on the fatigue life of rolls with grooves**. // *International journal of damage mechanics*. (2014) 5. Krstulović-Opara, Lovre; Garafulić, Endri; Klarin, Branko; Domazet, Željko. **Application of gradient based IR thermography to the GRP structures inspection**. // *Key Engineering Materials*. **488-489** (2012) ; 682-685
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. Domazet, Željko; Lukša, Francisko. **Influence of Rolling Temperature on Fatigue Life of Calibrated Rolls**. // *Advanced materials research*. **742** (2013) ; 482-487 2. Domazet, Željko; Lukša, Francisko; Šušnjar, Marko; Korun Curić, Kristina. **Stress-time History of Rolls with Grooves**. // *Transactions of FAMENA*. **35** (2011) , 3; 67-74 3. Krstulović-Opara, Lovre; Domazet, Željko; Klarin, Branko; Garafulić, Endri. **The Application of IR Thermography to the NDT and Thermal Stress Analysis**. // *HDKBR info*. **1** (2012.) , 6/7; 17-22 4. Krstulović-Opara, Lovre; Klarin, Branko; Neves, Pedro; Domazet, Željko. **Thermal imaging and Thermal Stress Analysis of the impact damage of composite materials**. // *Engineering failure analysis*. **18** (2011) ; 713-719 Vesenjak, Matej; Krstulović-Opara, Lovre; Ren, Zoran; Domazet, Željko. **Cell shape effect evaluation of polyamide cellular structures**. // *Polymer testing*. **29** (2010) , 8; 991-994
The name of the programme and the volume in which the main	„Training for administrative and educational personnel“ part of the EU project ME4CataLOgue (Mechanical Engineering for

teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Catalogue)
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	University of Split, Rector price, 2015.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Results are confidential matter and kept by employer (University of Split, FESB)

First and last name and title of teacher	**Ilja Doršner, Ph.D., Associate Professor**
The course he/she teaches in the proposed study programme	Physics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ulica pod Kosom 15, 21000 SPLIT
Telephone number	0914305883
E-mail address	dorsner@fesb.hr
Personal web page	
Year of birth	1971
Scientist ID	341315
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, 16.4.2014.
Area and field of election into research or art rank	Area of natural sciences, field of physics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, R. Boškovića 32, 21000 Split, Croatia
Date of employment	1.9.2014.
Name of position (professor, researcher, associate teacher, etc.)	professor
Field of research	Physics
Function	Head of Chair of Physics
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	University of Delaware
Place	Newark, Delaware, United States of America
Date	10.1.2004.
INFORMATION ON ADDITIONAL TRAINING	
Year	2007. – 2009. god.
Place	Ljubljana, Slovenia
Institution	Institute Jožef Stefan
Field of training	Elementary Particle Physics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Slovenian 4
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Fundamentals in Physics II, undergraduate program, University of Delaware, USA
Authorship of university/faculty	*Symmetries in physics*, Ilja Doršner, ISBN 978-9958-592-35-5,

textbooks in the field of the course	2013.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	Ilja Doršner, Svjetlana Fajfer, Admir Greljo, Jernej F. Kamenik, and Nejc Košnik, "**Physics of leptoquarks in precision experiments and at particle colliders"**," *Phys. Rept.* 641 (2016) 1-68, arXiv:1603.04993. Ilja Doršner, Svjetlana Fajfer, and Nejc Košnik, "**Is symmetry breaking of** *SU*(5) **theory responsible for the diphoton excess?**," *Phys. Rev. D* 94 (2016) no.1, 015009, arXiv:1601.03267. Ilja Doršner, "**Comment on "***SU*(5) **octet scalar at the LHC**"," *Phys. Rev. D* **91** (2015) 118701. Ilja Doršner, Svjetlana Fajfer, Admir Greljo, Jernej F. Kamenik, Nejc Košnik, and Ivan Nišandžić, "**New physics models facing lepton flavor violating Higgs decays at the percent level**," JHEP (2015) 0615:108, arXiv:1502.07784. Ilja Doršner, Svjetlana Fajfer, and Admir Greljo, "**Cornering Scalar Leptoquarks at LHC**," JHEP (2014) 1014:154, arXiv:1406.4831.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	None
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	***HRZZ Research Projects* (IP-11-2013)**, Hrvatska zaklada za znanost (1.10.2014. god. – 30.9.2018. god.). ***Exploiting the LHC Potential to build Collaboration in Science and Technology* (IZ74Z0_ 137346)**, Swiss Science National Foundation (1.1.2012. – 31.12.2014. god.). ***Sofinanciranje znanstveno raziskovalnega sodelovanja med RS in ZDA v letih* 2009-2012**, Slovenian Research Agency (ARRS) (1.7. 2009. – 30.6.2012. god.).
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Competitive Scholarship 2002, University of Delaware
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Prof.dr.sc. Petar Filipić**
The course he/she teaches in the proposed study programme	Introduction to Macroeconomics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Spinutska 4, 21000 Split
Telephone number	00385-21-443-0678
E-mail address	filipic@efst.hr
Personal web page	
Year of birth	1947
Scientist ID	11862
Research or art rank, and date of last rank appointment	(Full) Professor, 17.5.2002
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	(Full) Professor, 17.5.2002
Area and field of election into research or art rank	Social science, Economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, Faculty of Economics
Date of employment	1.10.1974.
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Macroeconomics, Regional economics, Quantitative economics, Political economics
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Economics
Place	Zagreb, Croatia
Date	1.12.1980.
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian 2
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Macroeconomics I, II, III, Advance Macroeconomics
Authorship of university/faculty textbooks in the field of the course	Filipić, P. (2012) *Ekonomski paradoksi*, Jesenski i Turk, Zagreb, str. 367
Professional, scholarly and artistic articles published in the last five	Filipić, P. (2012) *Ekonomski paradoksi*, Jesenski i Turk, Zagreb, str. 367.

years in the field of the course (5 works at most)	Filipić, P. (2013) *Anatomija destrukcije – Politička ekonomija visokog školstva u Hrvatskoj*, Jesenski i Turk, Zagreb, str. 255. Filipić, P. (2015) *Economic Effects of the Capital City*, 11th International Conference Challenges of Europe, Split – Hvar, May 27-29, p.28. Filipić, P. (2016) *The estimate of regional balances of payments in Croatia, F*inancial Theory and Practice 40 (1) 85-128. Filipić, P. (2017) *On political business cycles in the Croatian economy, or are HDZ and SDP "the same"*, 12th International Conference "Challenges of Europe: Innovative Responses for Resilient Growth and Competitiveness", 17 - 19 May, Bol - Island Brač
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	Filipić, P. (2013) *Ocjena mjesta i uloge ekonomskog visokog obrazovanja u visokom obrazovanju Hrvatske*, u zborniku radova Ekonomsko obrazovanje u Republici Hrvatskoj – jučer, danas, sutra, ur: V. Čavrak i T. Gelo, zagreb, str. 39-54. Filipić, P. (2016) *Mjesto i uloga studija Ekonomija na Ekonomskim fakultetima u RH,* 6. Interkatedarski sastanak katedri za opću/teorijsku ekonomiju 27. 5. Ekonomski fakultet Split
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	2017. – Effects of Economic Disasters funded by Croatian Science Foundation
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences.	Development of pedagogical competences of University teachers, University of Split, Faculty of Philosophy. (1979)
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Last three: (2010) University of Split for contribution in university development (2013) The prize for Science – lifetime achievement award, Slobodna Dalmacija (2013) The prize for Science – lifetime achievement award, Ekonomski fakultet 2013
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Organizer: University of Split Average grade: 4 Grading scale: 1-5

First and last name and title of teacher	**Nikola Gjeldum, Ph. D., Assistant Professor**
The course he/she teaches in the proposed study programme	Design for Manufacturing
GENERAL INFORMATION ON COURSE TEACHER	
Address	Mosećka 6, Split, Hrvatska
Telephone number	+385914305934
E-mail address	nikola.gjeldum@fesb.hr
Personal web page	http://marjan.fesb.hr/~ngjeldum/
Year of birth	1979
Scientist ID	287306
Research or art rank, and date of last rank appointment	Senior Research Associate, 20/3/2011
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant Professor, 15/6/2016
Area and field of election into research or art rank	Technical Sciences, Field Mechanical engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	14/5/2006
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Manufacturing technology, production organization, plant layout, design for manufacturing and assembly
Function	Assistant professor
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	25/02/2011
INFORMATION ON ADDITIONAL TRAINING	
Year	2009
Place	Aachen, Germany
Institution	RWTH WZL Aachen
Field of training	Optimization of manufacturing processes
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4) (very good)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	

Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Manufacturing process planning Mechanical engineering 1. year of graduate study
Authorship of university/faculty textbooks in the field of the course	-
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Gjeldum, Nikola; Bilić, Boženko; Kujundžić, Fabris. Application of modified value stream mapping tool for restructuring of make-to-order production system // CIM 2013 : Computer Integrated Manufacturing and High Speed Machining / Abele, Eberhard ; Udiljak, Toma ; Ciglar, Damir (ur.). Zagreb : Croatian Association of Production Engineering, 2013. 113-118 2. Gjeldum, Nikola; Veža, Ivica; Beram Žana. Design Tool For Solar Panels Product Customization // Proceedings of the 5th International Conference on Mass Customization and Personalization in Central Europe (MCP-CE 2012) / Anišić, Zoran ; Freund, Robert (ur.). Novi Sad : Faculty of Technical Sciences in Novi Sad, 2012. 82-87 3. Gjeldum, Nikola; Veža, Ivica; Bilić, Boženko. Simulation of production process reorganized with value stream mapping. // Tehnički vjesnik : znanstveno-stručni časopis tehničkih fakulteta Sveučilišta u Osijeku. 18 (2011) , 3; 341-347 4. Štefanić, Nedeljko; Gjeldum, Nikola; Mikac, Tonči. Lean Concept Application in Production Busines. // Technical Gazzete, Tehnički vjesnik : znanstveno-stručni časopis tehničkih fakulteta Sveučilišta u Osijeku. 17 (2010) , 3; 353-356
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	-
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	Collaboration with industry – implementation of production reorganizationimplementacija, improvement of production and assembly processes and products: FEAL d.o.o. Široki Brijeg, Bosnia and Herzegovina, - production and assebbly of alluminium parts DALSTROJ d.d. production and assembly of winches BRODOTROGIR d.d. shipyard KONČAR – production and assembly of power transformers
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Scientific award Festo: Young researcher and scientist support scolarship, kao autoru nagrađenog rada, dodijeljena na 19. DAAAM International Symposium on Intelligent Manufacturing & Automation, Trnavi, Slovakia, 22-

	25.10.2008.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	None

First and last name and title of teacher	**Nikola Godinović, Ph.D., Associate Professor**
The course he/she teaches in the proposed study programme	Physics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Omiška 20, 21000 Split
Telephone number	0915195314
E-mail address	nikola.godinovic@fesb.hr
Personal web page	
Year of birth	1959
Scientist ID	129696
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate Professor, 11.3.2016.
Area and field of election into research or art rank	Area of natural sciences, field of physics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split *Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture* R. Boškovića 32 21000 Split Croatia
Date of employment	1.1.1985.
Name of position (professor, researcher, associate teacher, etc.)	professor
Field of research	Physics

Function	Head of the Department of Mathematichs and Physics
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	University of Zagreb
Place	Croatia, Zagreb
Date	30.11.2003.
INFORMATION ON ADDITIONAL TRAINING	
Year	1995. – 2017. god.
Place	Geneva
Institution	CERN
Field of training	Experimenatal Elementary Particle Physics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German 2
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Nuclear physcis, Experimtnal Methods of Moderan Physics, graduate program, University of Split, Fcaulty of Scince.
Authorship of university/faculty textbooks in the field of the	Faculty text book:

course	*Instructions for laboratory exercises in Physics 1* *Instructions for laboratory exercises in Physics 1*
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. *Teraelectronvolt pulsed emission from the Crab Pulsar detected by MAGIC,* MAGIC Collaboration, Ansoldi, S.; et al., . (Authors: MAGIC collaboration), Astronomy and Astrophysics 585, Article Number: A133 (2016) IF: 4.479. 2. *The major upgrade of the MAGIC telescopes, Part I: The hardware improvements and the commissioning of the system*, (Authors: MAGIC Collaboration,) Astroparticle Physics 72, pages: 61-75 (2016) IF: 3.584. 3. *The major upgrade of the MAGIC telescopes, Part II: A performance study using observations of the Crab Nebula*, (Authors: MAGIC Collaboration), Astroparticle Physics 72, pages: 76-94 (2016) IF: 3.584. 4. *Measurement of the properties of a Higgs boson in the four-lepton final state*, By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al., Group Author(s): CMS Collaboration, Physical Review D 89, Issue: 9, Article Number: 092007 (2014) IF: 4.506 5. *Study of the Mass and Spin-Parity of the Higgs Boson Candidate via Its Decays to Z Boson Pairs*, S. Chatrchyan et al. (CMS Collaboration), Physical Review Letters 110, 081803 – Published 21 February 2013; Erratum Phys. Rev. Lett. 110, 189901 (2013). IF: 7.512.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	None
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	***HRZZ Research Projects* (IP-11-2013)**, Croatian Sicnece Foundation zaklada za znanost (1.10.2014. god. – 30.9.2018. god.). ***HRZZ Research Projects* (Very high energy gamma ray astronomy with the MAGIC telescopes)**, Croatian Sic nece Foundation zaklada za znanost (1.7.2012. god. – 31.12.2016.).

The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Slobodna Dalmacija ”Science Award”
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Ivica Jurić-Grgić, Ph. D., Associate Professor**
The course he/she teaches in the proposed study programme	Electrical Engineering
GENERAL INFORMATION ON COURSE TEACHER	
Address	Pujanke 59, 21000 Split, Croatia
Telephone number	+385 21 305-811
E-mail address	ijuricgr@fesb.hr
Personal web page	-
Year of birth	1977.
Scientist ID	248792
Research or art rank, and date of last rank appointment	Senior scientific associate, 12/7/2012
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate Professor, 20/9/2016
Area and field of election into research or art rank	Technical Sciences, Field Electrical engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	23/9/2001
Name of position (professor, researcher, associate teacher, etc.)	Associate Professor
Field of research	Power engineering
Function	-
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	10/3/2008
INFORMATION ON ADDITIONAL TRAINING	
Year	-
Place	-
Institution	-
Field of training	-
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Electrical Machines 1, Graduate study programme. Testing of electrical installation, Graduate study programme. Electrical safety, Undergraduate study programme. Electrical engineering, Undergraduate study programme.
Authorship of university/faculty textbooks in the field of the course	-
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	• Jurić-Grgić, I.; Lucić, R.; Dabro, M.: "A coupled nonuniform transmission line analysis using FEM", International Transactions on Electrical Energy Systems, Vol.23 (8), 2013, pp. 1365–1372. • Lucić, R.; Jurić-Grgić, I.; Balaž, Z.: " Grounding grid

	transient analysis using the improved transmission line model based on the finite element method", ETEP: European Transactions on Electrical Power, Vol.23 (2), 2013, pp. 282–289. • Dabro, M.; Jurić-Grgić, I.; Martinović, M.: "Improvement of Synchronous Generator Power Stability Using Hydraulic Digital Governor", International Journal on Engineering Applications (IREA), Vol. 1 (5), 2013, pp. 263-267. • Dabro, M.; Jurić-Grgić, I.; Lucić, R.: "Optimization of Hydraulic Digital Governor parameters using EMTP-RV", International Journal on Engineering Applications (IREA), Vol. 1 (2), 2013, pp. 90-93. • Dabro, M.; Jurić-Grgić, I.; Lucić, R.: "EMTP-RV Model of Hydraulic Digital Governor", International Review on Modelling and Simulations (IREMOS), Vol. 4 (6), 2011, pp. 1-5.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	-
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	• Study: Elaborat iznošenja potencijala i izračun napona dodira i koraka za EVP 110/25 kV Novska, Naručitelj: Projektni biro Split, 2010. • Project: 023 0231581-1610, "Numeričko modeliranje elektroenergetskog sustava tehnikom konačnih elemenata", br. 023 0231581-1610, Ministarstvo znanosti, obrazovanja i športa Republike Hrvatske, 2007.-2011. • Study: Izrada pravila i mjera sigurnosti za osiguranje mjesta rada na elektroenergetskim vodovima, Naručitelj: HEP OPS d.o.o., Prijenosno područje Split, 2013.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	-
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	-
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	-

First and last name and title of teacher	**Branko Klarin, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Fluid mechanics
GENERAL INFORMATION ON COURSE TEACHER	
Address	A. Hebranga 7, 23000 Zadar
Telephone number	091-6305950
E-mail address	Branko.Klarin@fesb.hr
Personal web page	www.fesb.hr/~bklarin
Year of birth	1962.
Scientist ID	3118339
Research or art rank, and date of last rank appointment	Scientific advisor, 11.05.2011.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Professor, 17.02.2016.
Area and field of election into research or art rank	Technical sciences, machine engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Fakultet elektrotehnike, strojarstva i brodogradnje - Split
Date of employment	01.06.1991.
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Renewable energy systems
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	D.sc.
Institution	Fakultet elektrotehnike, strojarstva i brodogradnje - Split
Place	Split
Date	03.12.2004.
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German, 2
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	
Authorship of university/faculty textbooks in the field of the course	Fluid mechanics, on-line course (on Croatian)
Professional, scholarly and artistic	1. Ninić, Neven; Klarin, Branko; Tolj, Ivan.

articles published in the last five years in the field of the course (5 works at most)	*Hybrid wind-power-distillation plant*. // Thermal Science. 16 (2012) , 1; 249-259 2. Klarin, Branko; Dalia Milić Kralj, *Wing sails for hybrid propulsion of the ships* // International Congress Energy and the Environment Opatija 2014, Rijeka, 2014. 339-350 3. Garafulić, E.; Klarin, B.: *Prihvatljivi način pohrane ugljikovog dioksida U Republici Hrvatskoj*, Tehnički vjesnik, 2013.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	ME4CataLOgue – Croatian catalogue of knowledge, skills and competences for mechine engineering studies based on learning outcomes – Training for teachers and administrative personel
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4.8/5 Dean's acknowledgement for best ranked 10% teachers in institution

First and last name and title of teacher	**Mirjana M. Kovač, Ph.D., Assistant Professor**
The course he/she teaches in the proposed study programme	English Language1, English Language 2 Industrial Engineering
GENERAL INFORMATION ON COURSE TEACHER	
Address	Put sv. Lovre 35, 21215 Kaštel Lukšić
Telephone number	021 305715
E-mail address	Mirjana.Kovac@fesb.hr
Personal web page	
Year of birth	1971
Scientist ID	297 640
Research or art rank, and date of last rank appointment	Research Associate
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant Professor, February, 2012
Area and field of election into research or art rank	Humanities and Social Sciences; Philology
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, Split
Date of employment	June, 2006
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Communication skills, speech production and speech disfluencies, communication strategies
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Philosophy, University of Zagreb
Place	Zagreb
Date	10th March, 2010
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of	

study programme)	
Authorship of university/faculty textbooks in the field of the course	1.Kovač, M.M.; Sirković, N. Presentation, Writing and Interpersonal Communication Skills. FESB, Split, 2014. 2.Kovač, Mirjana M.; Sirković, Nina. Strategije rješavanja poteškoća u komunikaciji na stranom jeziku. Hrvatska sveučilišna naklada, Zagreb (2015)
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1.Kovač, Mirjana Matea; Sirković, Nina. Peer Evaluation of Oral Presentations in Croatia. // *English Language Teaching*. 5 (2012) , 7; 8-17 (scientific paper). 2.Kovač, Mirjana Matea. Utjecaj kognitivne složenosti zadatka na samoispravljanja. // *Linguistica Copernicana*. 5 (2011) , 1; 269-300 (scientific paper). 3.Kovač, Mirjana Matea; Horga, Damir. Ponavljanja kao oblik govorne disfluentnosti. // *Linguistica Copernicana*. 5 (2011) , 1; 245-267 (scientific paper). 4. Kovač, Mirjana Matea. The Influence of Task Type on Perceived Fluency. // *Studies in English Language Teaching.* 4 (2016), 2; 241-253 (scientific paper). 5. Kovač, Mirjana Matea. Repetition as a Communication Strategy. // *Studies in English Language Teaching.* 4 (2016), 1; 87-104 (scientific paper).
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1.Kovač, Mirjana Matea; Sirković, Nina. Peer Evaluation of Oral Presentations in Croatia. // *English Language Teaching*. 5 (2012) , 7; 8-17 (scientific paper).
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoškekompetencije?	Graduate study program in English Language and Literature; Graduate study program in German Language and Literature
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Nikša Krnić, Associate Professor, Ph. D.**
The course he/she teaches in the proposed study programme	Testing of materials, Modern material processing technologies
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ruđera Boškovića 32
Telephone number	+38521305912
E-mail address	nkrnic@fesb.hr
Personal web page	-
Year of birth	1956.
Scientist ID	122696
Research or art rank, and date of last rank appointment	Research scientist, 2011.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate Professor, 2011., in re-election process
Area and field of election into research or art rank	Technical sciences, Mechanical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, FESB
Date of employment	1984.
Name of position (professor, researcher, associate teacher, etc.)	Associate Professor
Field of research	Production technologies
Function	-
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Ph. D.
Institution	FSB, Zagreb
Place	Zagreb
Date	1999.
INFORMATION ON ADDITIONAL TRAINING	
Year	1988. – 1989.; 1992.
Place	Berlin, Njemačka
Institution	Technische Universitat Berlin, Fuege- und Schweisstechnik
Field of training	Underwater Welding; Welding
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German, 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	French, 2
COMPETENCES FOR THE COURSE	

Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Performed, proposed and upgraded more similar or new courses on Undergraduate, Bachelor and Graduate studies on FESB, Faculty of Maritime Studies in Split, University Dept. of professional Studies in Splitu, University of Applied Sciences in Velika Gorica, Study of Underwater Science and Technology on the University of Zadar
Authorship of university/faculty textbooks in the field of the course	1. Duplančić, I.; Krnić, N.: "Materijali 3", Split, 2011., electronic book, FESB, e – learning portal, 2. Duplančić, I.; Krnić, N.; Bajić, D.: Osnove tehnologijâ, Split, 2008., electronic book, FESB, e – learning portal 1. Krnić, N.: Additive Layer Manufacturing Based on Robotic Electric-Arc Welding and Wire Feedstock, 41st Int. Conf. on Welding – Modern Joining Processes, Development of Filler Materials and Simulations, Opatija, June 2016. 2. Krnić, N.: Suvremene laserske tehnologije obrade materijala, Društvo inženjera strojarstva Split, DISS, Split, 2012., invited lecture 3. Kordić, Z.; Krnić, N.: Trends in Application of Composite Materials for Helicopter Rotor Blades, Proceedings of 2nd Conf. on Business Systems Management – UPS 2001, DAAAM, Mostar, 2001. 4. Krnić, N.; Dorn, L.; Kralj, S.: Welding Processes in Modern Shipbuilding Industry, Proc. of the 3rd International Conf. Welding in Maritime Engineering, Hvar, Croatia, 2004, HDTZ, CWS, pp. 523 - 532, ISBN 953-96454-6-8. 5. N. Krnić, N.; Bekavac, T.: Robotic Gas Metal Arc Welding and Off-line Programming for Metal Additive Layer Manufacturing, 41st Int. Conf. on Welding – Modern Joining Processes, Development of Filler Materials and Simulations, Opatija, June 2016.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?	ME4CataLOgoue (Mechanical Engineering for Catalogue)
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Award of the Croatian Welding Society Specialisation on Technical University of Berlin and fellowship

	of the German Academic Exchange Office (DAAD)
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Lovre Krstulović-Opara, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Design of industrial products, Explerimental methods in engineering
GENERAL INFORMATION ON COURSE TEACHER	
Address	R. Boškovića 32
Telephone number	+385/21/305777
E-mail address	Lovre.Krstulovic-Opara@fesb.hr
Personal web page	http://marjan.fesb.hr/~opara/index.html
Year of birth	1967
Scientist ID	203806
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor – permanent position 9.12.2015.
Area and field of election into research or art rank	Technical sciences, mechanical engineering, general mechanical engineering (structures)
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split Faculty of Electr. Eng., Mech. Eng. and Naval Arch.
Date of employment	IX.2001.
Name of position (professor, researcher, associate teacher, etc.)	Full professor - permanent position
Field of research	metal structures, non-destructive testing
Function	head of Chair for structural mechanics and design
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Dr.-Ing.
Institution	Leibniz Universitaet Hannover
Place	Hannover
Date	13.12.2000.
INFORMATION ON ADDITIONAL TRAINING	
Year	2015 (MT), 2014 (VT), 2013 (PT), 2012 (UT)
Place	Zagreb
Institution	Croatian society of non-destructive testing
Field of training	NDT methods: UT2, MT2, VT2, PT1
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian 4
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	
Authorship of university/faculty textbooks in the field of the course	L. Krstulović-O., Ž. Domazet: Dizajn industrijskih proizvoda (skripta FESB)

	Ž. Domazet, L. Krstulović-O., Skripta iz osnova strojarstva (KTF)
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	I. Duarte, M. Vesenjak, L. Krstulovic-Opara:"Compressive behaviour of unconstrained and constrained integral-skin closed-cell aluminium foam", Composite structures, **154**, 231–238, 2016. L. Krstulović-Opara, M. Vesenjak, I. Duarte, Z. Ren, Ž. Domazet: "Infrared thermography as a method for energy absorption evaluation of metal foams", Materials Today: Proceedings, 3, 1025-1030, 2016. L. Krstulovic-Opara, M. Surjak, M. Vesenjak, Z. Tonković, J. Kodvanj, Ž. Domazet: "Comparison of infrared and 3D digital image correlation techniques applied for mechanical testing of materials", Infrared Physics & Technology, 73, 166-174, 2015. L. Krstulovic-Opara: "Application of thermography in analysis of fatigue strength of materials and structures", HDKBR info, 10, 3-11, 2013. L. Krstulovic-Opara, Ž. Domazet, E. Garafulic: "Detection of osmotic damages in GRP boat hulls", Infrared Physics & Technology, 60, 359-364, 2013.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	„Training for administrative and educational personnel“ part of the EU project ME4CataLOgue (Mechanical Engineering for Catalogue)
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Results are confidential matter and kept by employer (University of Split, FESB)

First and last name and title of teacher	**Branimir Lela, PhD, Assistant Professor**
The course he/she teaches in the proposed study programme	Technology 2
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ruđera Boškovića 32, Split
Telephone number	021/305909
E-mail address	blela@fesb.hr
Personal web page	
Year of birth	1976
Scientist ID	250123
Research or art rank, and date of last rank appointment	Scientific associate, 10/12/2010
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	assistant professor, 18/04/2012
Area and field of election into research or art rank	Technical Sciences, Field Mechanical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	01/10/2001
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Engineering materials; Metal heat treatment; Forming by deformation; Numerical modelling of production processes; Tools and fixtures
Function	Vice Dean for Education
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	16/07/2010
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name	**Undergraduate study:** 1. Technology 2 (130)

title of course, study programme where it is/was offered, and level of study programme)	2. Technology 2 (150) 3. Fundamentals of technologies (140) **Professional study:** 1. Metal forming by deformation (530) 2. Technology of metal processing (540) **Graduate study:** 1. Tools and fixtures (263,261,271,272) **Postgraduate study**: 1. Processing by deformation (330)
Authorship of university/faculty textbooks in the field of the course	- Manual for laboratory exercise in processing by deformation - Manual for laboratory exercise in heat treatment
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Jozić, Sonja; Lela, Branimir; Bajić, Dražen. **A New Mathematical Model for Flank Wear Prediction Using Functional Data Analysis Methodology**. *Advances in Materials Science and Engineering*. **2014** (2014) ; 1-8 2. Lela, Branimir; Musa, Ante; Zovko, Oliver. **Model-based controlling of extrusion process**. *International journal of advanced manufacturing technology*. **74** (2014) , 9-12; 1267-1273 3. Krstić Vukelja, Elizabeta; Duplančić, Igor; Lela, Branimir. **Continuous roll casting of aluminium alloys– casting parameters analysis**. *Metalurgija*. **49** (2010) , 2; 115-118 4. Cvitanić, Vedrana; Ivandić, Daniel; Lela, Branimir. **Comparison of orthotropic constitutive models in predicting square cup deep drawing process of AA2090-T3 sheet** . *Proceedings of 4th International Conference Mechanical Technologies and Structural Materials 2014* / Živković, Dražen (ur.). Split : Croatian society for mechanical technologies, 2014. 61-70 5. Duplancic, Igor; Lela, Branimir; Musa, Ante; Zovko, Oliver. **Functional Data Analyses in Control of Extrusion Process**. *Proceedings of the Tenth International Aluminum Extrusion Technology Seminar*. Wauconda, Illinois, USA : ET Foundation, 2012. 655-663
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. Improving the properties and methods of processing aluminium alloys Project manager: prof. dr. sc. Igor Duplančić, Time period: 2007.-2014. Financing: MZOŠ 2. Parameters optimization and prediction of results of metal heat treatment Project manager: prof. dr. sc. Božo Smoljan, Time period: 2014.- Financing: HRZZ
The name of the programme and the volume in which the main teacher passed exams in/acquired	Training for teachers and administrative staff within EU project ME4CataLOgue

the methodological-psychological-didactic-pedagogical group of competences?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4.7/5

First and last name and title of teacher	**Damir Lelas, Ph. D, Assistant Professor**
The course he/she teaches in the proposed study programme	Physics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Cetvrt kralja Zvonimira 5, 21310 Omis, Croatia
Telephone number	+ 385 21 305881
E-mail address	dalelas@fesb.hr
Personal web page	https://nastava.fesb.hr/nastava/nastavnici/detalji/dalelas
Year of birth	1972
Scientist ID	309371
Research or art rank, and date of last rank appointment	Research Associate, February 2009
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant Professor - September 2014 (reappointment)
Area and field of election into research or art rank	Natural Sciences, Physics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	01/03/2009
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Particle and Astroparticle Physics
Function	- 2011-2012 Member of the Scientific Council at the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split - 2012-2015 Vice Dean for Education, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	University of Hamburg
Place	Hamburg, Germany
Date	11/06/2004
INFORMATION ON ADDITIONAL TRAINING	
Year	2004-2006, Post Doctorate 2006-2008, Post Doctorate
Place	Orsay Cedex, France Victoria, Canada
Institution	University of Paris XI University of Victoria
Field of training	Particle Physics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	French (2)
Foreign language and command of	

foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	- Physice 1, Physics 2 - University Undergraduate Study of Computer Science and University Undergraduate Study of Electrical Engineering - Physics, University Undergraduate Study of Mechanical Engineering and Industrial Engineering
Authorship of university/faculty textbooks in the field of the course	Web Material: https://fesb.hr/elearning/
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	**A New Boson with a Mass of 125 GeV Observed with the CMS Experiment at the Large Hadron Collider** Group Author(s): CMS Collaboration Source: SCIENCE Volume: 338 Issue: 6114 Pages: 1569-1575 DOI: 10.1126/science.1230816 Published: DEC 21 2012, (IF 31.027, Q1) **Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC** Group Author(s): CMS Collaboration Source: PHYSICS LETTERS B Volume: 716 Issue: 1 Pages: 30-61 DOI: 10.1016/j.physletb.2012.08.021 Published: SEP 17 2012, (IF 7.934, Q1) **Combined results of searches for the standard model Higgs boson in pp collisions at root s=7 TeV** Author(s): Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al. Group Author(s): CMS Collaboration Source: PHYSICS LETTERS B Volume: 710 Issue: 1 Pages: 26-48 DOI: 10.1016/j.physletb.2012.02.064 Published: MAR 29 2012, (IF 7.934, Q1) **Phase-resolved energy spectra of the Crab pulsar in the range of 50-400 GeV measured with the MAGIC telescopes** Author(s): Aleksic, J.; Alvarez, E. A.; Antonelli, L. A.; et al. Source: ASTRONOMY & ASTROPHYSICS Volume: 540 Article Number: A69 DOI: 10.1051/0004-6361/201118166 Published: APR 2012, (IF 5.084, Q1) **Performance of the MAGIC stereo system obtained with Crab Nebula data** Author(s): Aleksic, J.; Alvarez, E. A.; Antonelli, L. A.; et al. Source: ASTROPARTICLE PHYSICS Volume: 35 Issue: 7 Pages: 435-448 DOI: 10.1016/j.astropartphys.2011.11.007 Published: FEB 2012, (IF 4.777, Q2)
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	- 2014 - “The Higgs boson properties measurements and search for new physics with the CMS detestor”, Project of Croatian Science Foundation (project member) - 2012 - ”Very High Energy Gamma Ray Astronomy with the MAGIC telescopes”, Project of Croatian National Science Foundation, grant 09/176. (project member)
The name of the programme and the volume in which the main teacher passed exams in/acquired	

the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,6/5

First and last name and title of teacher	**Željan Lozina, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Mechanics 2, Mechanics3
GENERAL INFORMATION ON COURSE TEACHER	
Address	Rendićeva 18
Telephone number	021-305-968
E-mail address	zeljan.lozina@fesb.hr
Personal web page	http://marjan.fesb.hr/~lozina/
Year of birth	1956.
Scientist ID	96925
Research or art rank, and date of last rank appointment	Scientific Adviser, 21.06.2000.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full Professor, 09.03.2005.
Area and field of election into research or art rank	Engineering Sciences, Field Engineering mechanics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	22.10.1982
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Dynamics/Vibration, Numerical methods, FEM
Function	Head of Chair of Dynamics and Vibration
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	FSB – Univerity of Zagreb
Place	Zagreb
Date	05.04.1989.
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	Udine, Italy
Institution	CISM
Field of training	Engineering Mechanics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian (3)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	French (2)
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of	Mechanics of materials, Programming, Mechanisms, Vehicle (ship) systems,…

study programme)	
Authorship of university/faculty textbooks in the field of the course	Finte element method, Univerity of Split Kinematics, Univerity of Split Dynamics, Univerity of Split Programming, Univerity of Split
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. 1. Sedlar, Damir; Lozina, Željan; Vučina, Damir: An implementation of structural change detection procedure based on experimental and numerical model correlation. // Journal of sound and vibration. 331 (2012) , 13; 3068-3082 2. Vučina, Damir; Lozina, Željan; Pehnec, Igor.: Ad-Hoc Cluster and Workflow for Parallel Implementation of Initial-Stage Evolutionary Optimum Design. // Structural and multidisciplinary optimization. 45 (2012) , 2; 197-222 3. Vučina, Damir; Lozina, Željan; Pehnec, Igor.: Computational procedure for optimum shape design based on chained Bezier surfaces parameterization. // Engineering applications of artificial intelligence. 25 (2012) , 3; 648-667 4. Vučina, Damir; Lozina, Željan; Vlak, Frane.: NPV-based decision support in multi-objective design using evolutionary algorithms. // Engineering applications of artificial intelligence. 23 (2010) , 1; 48-60 5. Lozina, Željan; Sedlar, Damir; Vučina, Damir.: Model Update with Observer/Kalman Filter and Genetic Algorithm Approach. // Transactions of FAMENA. 36 (2012)
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1. Cvitanić, Vedrana; Duplančić, Igor; Lozina, Željan; Ivandić, Daniel.:Earing predictions for Al2008-T4 sheet. // Aluminium and its alloys. 3 (2011) ; 73-77 2. Sedlar, Damir; Lozina, Željan; Vučina, Damir. 3. Comparison of Genetic and Bees Algorithm in the Finite Element Model Update. // Transactions of FAMENA. 35 (2011) , 1; 1-12
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. HRZZ Istraživački projekt: Mjeriteljska infrastruktura za pametne mreže, 2015. - 2018. 2. LLP - ERASMUS: Strategic Alignment of Electrical and Information Engineering in European Higher Education Institutions, 2012. -2014. 3. TEMPUS: Creation of the third cycle studies-doctoral studies in metrology Trajanje projekta: 2010. – 2013.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Me4
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,8/5

First and last name and title of teacher	**Gojko Magazinović, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Computer Aided Design 1
GENERAL INFORMATION ON COURSE TEACHER	
Address	Trg Mihovila Pavlinovića 6, 21000 Split, HR
Telephone number	+385 21 305 966
E-mail address	gmag@fesb.hr
Personal web page	www.fesb.hr/~gmag
Year of birth	1956
Scientist ID	139574
Research or art rank, and date of last rank appointment	Scientific Adviser, 1/12/2010
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full Professor, 27/9/2012
Area and field of election into research or art rank	Technical Sciences, Field Mechanical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	1/9/1994
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Engineering applications of computer
Function	Teacher
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	14/3/2002
INFORMATION ON ADDITIONAL TRAINING	
Year	2004, 2005
Place	Split
Institution	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Field of training	Computer aided design (Pro/Engineer, Catia, Unigraphics; three separate courses)
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (3)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of	Computer Aided Design, Undergraduate study programme, Computer Aided Design 2, Graduate study programme

study programme)	
Authorship of university/faculty textbooks in the field of the course	1. Magazinović, Gojko: Primjena elektroničkih računala – Podloge za laboratorijske vježbe - Programski jezik Fortran 90, Skripta, FESB Split, ISBN 953-6114-60-7, Split, 2003. 2. Magazinović, Gojko: Primjena elektroničkih računala – Podloge za laboratorijske vježbe - Programski jezik C, Skripta, FESB Split, ISBN 953-6114-59-3, Split, 2003.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Pivac, Ivan; Magazinović, Gojko. Numerical analysis of tank heating coil heat transfer process, in: Towards Green Marine Technology and Transport // Guedes Soares, Carlos; Dejhalla, Roko; Pavletić, Duško (Eds). London: Taylor & Francis Group, 2015. 603-608. 2. Bezmalinović, Dario; Magazinović, Gojko; Barbir, Frano. Analysis of Fuel Cell Stacks Degradation by Polarization Change Curves // Proceedings, 2014 IEEE Vehicle Power and Propulsion Conference VPPC2014 / Paulo J. G. Pereirinha (Ed.). IEEE, 2014. 139-141. 3. Magazinović, Gojko. Least Inertia Approach to Low-speed Marine Diesel Propulsion Shafting Optimum Design, Brodogradnja 65(2014)3, 75-87. 4. Magazinović, Gojko. Transient Torsional Vibration Analysis of Marine Propulsion Plants, // Proceedings, Sorta 2014 / Dejhalla, Roko (Ed.). Rijeka: Tehnički fakultet, Sveučilište u Rijeci, 2014. 505-512 5. Magazinović, Gojko. Castor - A Propulsion Shaftline Torsional Vibration Assessment Tool, Paper No. 76, // Proceedings Sorta 2012 / Žiha, Kalman, et al. (Eds.). Zagreb: Faculty of Mechanical Engineering and Naval Architecture, Zagreb, and Brodarski Institute, Zagreb, 2012.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	-
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. HRZZ Istraživački projekt: Upravljanje vodom i toplinom i trajnost membranskih gorivnih članaka, 2015-2018. 2. FP7 Istraživački projekt: SAPPHIRE, 2013-2016.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	IPA IV projekt "ME4CataLOgue - Hrvatski katalog znanja, vještina i kompetencija za studije strojarstva temeljen na ishodima učenja (za preddiplomski, diplomski i doktorski studij)", Trening implementacije ishoda učenja u razvoj studijskih programa i kurikuluma, Split, 2014.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Award for the significant results achieved in scientific research, FESB Split, 1982.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	3,7/5 (five year average)

First and last name and title of teacher	**Ivan Matić, PhD, Assistant professor**
The course he/she teaches in the proposed study programme	Business Systems Organisation
GENERAL INFORMATION ON COURSE TEACHER	
Address	Kamensko 38, 21246 Aržano
Telephone number	0911300500
E-mail address	imatic@efst.hr
Personal web page	http://www.efst.hr/content.php?k=fakultet&p=69&osoba=imatic
Year of birth	1980.
Scientist ID	274414
Research or art rank, and date of last rank appointment	Research associate, 13.11.2012. Senior research associate, 10.10.2014.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Research-and-teaching rank of assistant professor, 26.03.2013.
Area and field of election into research or art rank	Area of Social Sciences, Field of Economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, Faculty of Economics
Date of employment	01.04.2015.
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Organisation and Management
Function	-
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Doctor of Philosophy
Institution	University of Split, Faculty of Economics
Place	Split
Date	01.12.2011.
INFORMATION ON ADDITIONAL TRAINING	
Year	2006, 2008, 2009, 2009
Place	Split, Opatija, Zagreb, Zagreb
Institution	Ministry of Foreign Affairs and European Integrations, International Project Management Association and Croatian Association for Project Management, Project Management Institute, Society for Organizational Learning (SoL)
Field of training	Project Cycle Management, Effective Preparation and Start-up of projects, Leading project in Crisis, Crisis – Threat or Opportunity
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme	Contemporary management (graduate, 1st year) Organisation Design (graduate, 1st year) Project Management (graduate, 2nd year)

where it is/was offered, and level of study programme)	Management (undergraduate, 2nd year) Managerial Decision Making (undergraduate, 2nd year) Business Organisation (undergraduate, 2rd year)
Authorship of university/faculty textbooks in the field of the course	1. Buble, Marin; Matić, Ivan (2011): *Ostvarivanje funkcija menadžmenta u malim hrvatskim poduzećima*, Faculty of Economics Split, Split, scientific monography. 2. Matić, Ivan; Pavić, Ivana; Mateljak, Željko (2009): *Menadžment - Priručnik za nastavu, 2nd revised and expanded edition,* Faculty of Economics Split, Split, university textbook. 3. Alfirević, Nikša; Pavić, Ivana; Matić, Ivan (2008): *Menadžment - Priručnik za nastavu,* Faculty of Economics Split, Split, university textbook.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Buble, Mario; Juras, Ana; Matić, Ivan (2014): *The relationship between managers leadership styles and motivation*, Management – Journal of Contemporary Management Issues, Vol. 19, pp. 161-193., scientific paper, indexed in: Scopus, Abi/Inform, EBSCO, Econlit, C.E.E.O.L., Gale/CENGAGE, Indeks Copernicus. 2. Buble, Marin; Matić Ivan (2012): *Business Processes Improvement: The Case of large Croatian Companies,* Journal of International Management Studies, Vol. 7, pp. 138-150., scientific paper, indexed in: ABI/Inform. 3. Matić, Ivan (2012): *Oblik organizacijske strukture i programi unapređenja poslovnih procesa*, Utjecaj organizacijskih varijabli na uspjeh programa unapređenja poslovnih procesa – Empirijsko istraživanje (editor: prof. emeritus M. Buble), pp. 33-47., book chapter. 4. Buble, Marin; Matić, Ivan (2012): *Utjecaj ostvarivanja funkcija menadžmenta na poslovne performanse malih hrvatskih poduzeća*, Financije i menadžment u globalnoj ekonomiji (editors: L. Božina, M. Gonan Božac, D. Učkar), pp. 147-183, scientific paper. 5. Matić, Ivan (2010): *Strukturalna paradigma*, Utjecaj organizacijskih varijabli na uspjeh programa unapređenja poslovnih procesa (editor: prof. emeritus M. Buble), pp. 123-140., book chapter.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	2007.-2014. – Scientific project funded by Ministry of Science and Education: *'Implications of the structural into process paradigm conversion'*
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	2014. – Successfully attended seminar: *'Development and improvement of university teachers' pedagogic competences'*, Centre for Research and Development of Lifelong Leaning/University of Split - Faculty of Humanities and Social Sciences, 2016. – Successfully completed course *'Academic Teaching Excellence – English as the Medium of Instruction'*, British Council Croatia.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	2010. – Awarded by University of Split – Faculty of Economics, as a member of author's team of scientific monography entitled „*Utjecaj organizacijskih varijabli na uspjeh programa*

	unapređenja poslovnih procesa", editor: prof. emer. Marin Buble.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Anita Matković, Ph.D., Associate Professor**
The course he/she teaches in the proposed study programme	Mathematics 1, Mathematics 2
GENERAL INFORMATION ON COURSE TEACHER	
Address	FESB, R. Boškovića 32, B804
Telephone number	021 305894
E-mail address	anita.matkovic@fesb.hr
Personal web page	https://nastava.fesb.hr/nastava/nastavnici/detalji/amatkovi
Year of birth	1966
Scientist ID	180406
Research or art rank, and date of last rank appointment	higher scientific collaborator
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate Professor, 2011
Area and field of election into research or art rank	Area od Natural Sciences, Field of Mathematics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	FESB, Split
Date of employment	2006
Name of position (professor, researcher, associate teacher, etc.)	Associate Professor
Field of research	Mathematics
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Ph.D.
Institution	University of Zagreb, Faculty of Science
Place	Zagreb, Croatia
Date	October 2006
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Mathematics 1, Mathematics 2, Mathematics 3, Mathematics – selected topics, undergraduate studies of electrical engineering, mechanical engineering and naval archicecture.
Authorship of university/faculty	

textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Matković, A., Generalization of the Jensen-Mercer inequality by Taylor's polynomial, Mathematical Inequalities and Applications, 19 (2016), 4; 1387-1398. 2. Matković, A.; Pečarić, Josip.; Perić, J., A refinement of the Jessen-Mercer inequality and a generalization on convex hulls in R^k, Journal of Mathematical Inequalities 9 (2015), 4; 1093-1114.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. Convex functions and applications, project MZOS No. 177-1170889-1207, 2007- 2015, collaborator. 2. 2. Inequalities and Applications , HRZZ research project No. 5435, 2014- , collaborator.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Graduate teachers study of mathematics and informatics, University of Split, Faculty of Science.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Evaluations organized by the Quality Enhancement Centre of the University of Split each semester. Average grade is 4.4 on the 1-5 scale.

First and last name and title of teacher	**Maja Mihaljević Kosor, Ph. D., Assistant Professor**
The course he/she teaches in the proposed study programme	Principles of Economics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ulica slobode 36
Telephone number	091 4430722
E-mail address	majam@efst.hr
Personal web page	
Year of birth	1977
Scientist ID	274293
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor Dec, 11th, 2012
Area and field of election into research or art rank	Social Sciences, Economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Economics, University of Split
Date of employment	June, 1st, 2000
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Public sector economics, Economics of education
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Staffordshire University
Place	Stoke-on-Trent, United Kingdom
Date	Aug 11th, 2009
INFORMATION ON ADDITIONAL TRAINING	
Year	2008
Place	Stoke-on-Trent
Institution	Staffordshire University
Field of training	Public sector, Economics of education
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5	French 3

(excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German 2
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Principles of economics, 1st year, undergraduate, university level, Faculty of Economics, University of Split History of economic thought, 1st year, undergraduate, university level, Faculty of Economics, University of Split Ekonomika javnog sektora, 1st year, graduate, university level, Faculty of Economics, University of Split
Authorship of university/faculty textbooks in the field of the course	Z. Reić, M. Mihaljević Kosor (2011): *Ekonomija*, 3rd edition, University of Split, Faculty of Economics.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	• Mihaljević Kosor, M. (2013): Efficiency Measurement in Higher Education: Concepts, Methods and Perspective, *Procedia-Social and Behavioral Sciences Journal* , pp.1031-1038. • Mihaljević Kosor, M. (2013): From Enrolment to Gradiation: Examining the Time to Complete Undergraduate Studies*, International Journal of Business and Management Studies*, Vol. 5(2), pp. 126-134. • Malešević Perović, L.; Mihaljević Kosor, M.; Filipić, P. (2011): The relative importance of religious denominations for life satisfaction, *Journal of Applied Economics and Business Research*, Vol. 1, Issue 3, str. 162.-176. ISSN 1927-033X. • Mihaljević Kosor, M. (2011): Missing Data Problems: An Application of Imputation in Educational Research, *Ninth International Conference Challenges of Europe: Growth and Competitiveness - Reversing the Trends,* proceedings, Zlatan, R.; Šimić, V. (urednici), University of Split, Faculty of Economics, Bol 26.-28.5.2011., str. 533.-545. CD ROM: ISSN 1847-4497, UDC 338.24(4)(063). • Mihaljević Kosor, M. (2010): Leaving Early: The Determinants of Student Non-completion in Croatian Higher Education, *Revija za socijalnu politiku*, Vol. 2, str. 197.-215. UDK: 37.011.3-052(497.5), DOI 10.3935/rsp.v17i2.913.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	Member of a project awarded by the Croatian Science Foundation: **„Investigating government expenditures on education: growth effects, convergence and efficiency“, HRZZ 9558.**

The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	- CERGE-EI Career Integration Fellowship in 2016 and 2017 - Award by the Faculty of Economics in 2003 for success in research and teaching

First and last name and title of teacher	**Nedjeljko Mišina, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Materials 1, Materials 2, Tehnology 1
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ruđera Boškovića 32, SPLIT
Telephone number	021/305911
E-mail address	nmisina@fesb.hr
Personal web page	----
Year of birth	1950.
Scientist ID	71172
Research or art rank, and date of last rank appointment	Scientific Adviser, 31/ 05/ 2006.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full Professor, 25/1/2013.
Area and field of election into research or art rank	Technical Sciences, Field Mechanical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	1/10/1977
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Mechanical Engineering
Function	Head of Chair of Materials and Tribology
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Mechanical Engineering and Naval Architecture
Place	Zagreb
Date	24/6/1992.
INFORMATION ON ADDITIONAL TRAINING	
Year	-
Place	-
Institution	-
Field of training	-
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Germany (2)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Materials (530, 540), Materials 1 (150), Materials 2 (150, 130), Technology 1 (150), Welding and similar treatments (530, 540)

Authorship of university/faculty textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Ž. Bilić, N. Mišina, L. Kuščer, J. Diaci, I. Polajnar: ¨Influence of welding conditions on resistance flash welds¨, International Journal of Microstructure and Materials Properties, Vol. 8, No. 6, 2013., 425-435. 2. N. Mišina, I. Polajnar, Ž. Bilić: ¨Production and weldability of microalloyed steels¨, 6. International scientific-professional conference, Slavonski Brod, 2011., 15-26.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1. I. Polajnar, N. Mišina: ¨Automation and/or robotization of welding processes¨, CIM 2011., Biograd, 195-202. 2. I. Polajnar, N. Mišina: ¨The latest achievement of personal protection for welders¨, 3. International Professional and Safety and Health, Zadar, 2010., 53-61
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. Ž. Bilić, I. Samardžić, N. Mišina: ¨Opasnosti i mjere zaštite kod postupaka zavarivanja¨, Dan varilne tehnike, Novo Mesto, 2014., 185-189
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,3/6

First and last name and title of teacher	**Ivan Pavić, Full Professor Tenure**
The course he/she teaches in the proposed study programme	Fundamentals of microeconomics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Split, R. Boškovića 28
Telephone number	091 4430 600
E-mail address	pavic@efst.hr
Personal web page	https://www.efst.hr/content.php?k=fakultet&p=69&osoba=pavic
Year of birth	1951.
Scientist ID	077961
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full Professor Tenure 06 April 2006
Area and field of election into research or art rank	Social Sciences Economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of economics
Date of employment	20 March 1976
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Economics (Protection of Competition, Microeconomics, Industrial Organization)
Function	Head of doctoral studies
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of economics Zagreb
Place	Zagreb
Date	
INFORMATION ON ADDITIONAL TRAINING	
Year	1991 and 2013
Place	Stoke on Trent
Institution	Staffordshire University, England
Field of training	Social Sciences
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	French, 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Competition policy, Microeconomics, Corporate Restructuring, Production Management, Compensation Management
Authorship of university/faculty textbooks in the field of the course	Pavić, I., Benić, Đ., Hashi, I., (2009). *Mikroekonomija* , 3. ed., Ekonomski fakultet Split. ISBN 978-953-281-020-2

	Pavić, I., Galetić, L., (1996). *Upravljanje plaćama*, RRiFplus, Zagreb. ISBN 953-6121-12-3 Pavić, I., i dr., (x). *Proizvodni management*,
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	Pervan M., Višić J., Pavić I., *Inconsistency in consumer preference: some interesting insights*, 3rd World Conference on Business, Economics and Management (BEM-2014). Pavić I., Pervan M., Višić J., *Personal characteristics as Determinants of Risk Propensity of Business Economics Students - An Empirical Study*, The 8th International days of statistics and economics, pp.1115-1125. September 11-13, 2014, Prague. ISBN: 978-80-87990-02-5. Pavić, I., Vojinić, P. *The Influence of Demographical and Professional Characteristics on Managers' Risk Taking Propensity*, Advances in Management and Applied Economics, 2 (2012).
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	-
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	*Development of Economics and Business Education in Split*, (2000-2003), Tempus project, coordinator. *Masters Degree in European Integration in Croatia*, 2003-2006, Tempus project, coordinator. *Utjecaj pridruživanja RH Europskoj uniji na profitabilnost hrvatskih poduzeća*, 2007. – 2014. scientific project (project code: 055-0551147-1105), leader.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	For the contribution to science in 2007 awarded with the Order of Croatian Danica with figure of Ruder Boskovic
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Maja Pervan, Ph. D. Associate Professor**
The course he/she teaches in the proposed study programme	Microeconomics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Makarska ulica 24, 21 000 Split
Telephone number	021 464 524
E-mail address	mpervan@efst.hr
Personal web page	http://www.efst.hr/content.php?k=fakultet&p=69&osoba=mpervan
Year of birth	1975
Scientist ID	257610
Research or art rank, and date of last rank appointment	**Scientific adviser, 09/01/2017**
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full Professor, 26/01/2017
Area and field of election into research or art rank	Social Sciences, Economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Economics, University of Split
Date of employment	01/05/1998.
Name of position (professor, researcher, associate teacher, etc.)	Full Professor
Field of research	Microeconomics, Industrial organisation
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Economics, University of Split
Place	Split
Date	23/02/2007
INFORMATION ON ADDITIONAL TRAINING	
Year	2001;2004; 2005;
Place	Stoke-on-Trent, UK
Institution	Staffordshire University
Field of training	Microeconomics
Year	2012; 2016; 2016; 2017
Place	Paris, Francuska; Barcelona, Spain; London,UK; Birmingham, UK
Institution	HEC; Barcelona Graduate School of Economics (GSE); Imperial College London; Aston University.
Field of training	Mikroekonomija
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	

COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Microeconomics I, Faculty of Economics, University of Split Undergraduate study Microeconomics II, Faculty of Economics, University of Split Undergraduate study Microeconomics III, Faculty of Economics, University of Split Graduate study
Authorship of university/faculty textbooks in the field of the course	1. Pervan, M., (2013). "*Mikroekonomija - zbirka zadataka*", treće izdanje, Ekonomski fakultet Split. ISBN 978-953-281-001-1 2. Pervan, M., (2008). "*Mikroekonomija - zbirka zadataka*", drugo dopunjeno izdanje, Ekonomski fakultet Split. ISBN 978-953-281-001-1 3. Pervan, M., (2005). "*Mikroekonomija - zbirka zadataka*", Ekonomski fakultet Split. ISBN 953-6024-73-X
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Pervan, M., Pervan, I, Ćurak, M. Does Business Success Enhance With Firm's Age? Case of Croatian Food Manufacturing Industry, 27th IBIMA conference on Innovation Management and Education Excellence Vision 2020: from Regional Development Sustainability to Global Economic Growth, 2016. pp. 3094-3101. ISBN: 978-0-9860419-6-9. 2. Pervan, M., Pelivan, I., Arnerić, J., Profit Persistence and Determinants of Bank Profitability in Croatia, Economic Research - Ekonomska Istraživanja, Taylor & Francis, Vol. 28, No. 1, 2015., pp. 284–298. ISSN 1331-677X (Print), 1848-9664 (Online). 3. Pervan, M., Mlikota, M., What Determines the Profitability of Companies?: Case of Croatian Food and Beverage Industry, Ekonomska istraživanja, Vol. 26, No. 1, 2013., pp. 277-286. ISSN: 1331-677X.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. 2015th to 2018th - scientific project "Determinants of business success" financed by the Croatian Science Foundation (project code: UIP-2014-09-1745) 2. 2007th to 2014th - scientific project " Effects of Croatia's Accession to EU on Croatian Firms' Profitability " financed by MZOŠ (project code: 055-0551147-1105) 3. Pervan, I., et al. (2011): An assessment of the right to use the license "Heating system" 4. Pervan, I. Pervan, M. (2010): Evaluation of the aparthotel Astoria with the method of capitalized net profit.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Development and improvement of teaching competencies of university teachers; Faculty of humanities and social sciences, University of Split, 17/11 - 28/11/2014
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	• 1998 Dean's award • 2004 Award for achievements in scientific and educational work of the Faculty of Economics, University of Split

	• 2012 Certificate of Best Presenter Award in recognition for the support as a distinguished speaker for the Global Management, Finance & Information Technology Research Conference, New York, USA.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,7/5

First and last name and title of teacher	**Tonči Piršić, Ph. D., Associate Professor**
The course he/she teaches in the proposed study programme	Enginering graphics 2
GENERAL INFORMATION ON COURSE TEACHER	
Address	Stepinčeva 2, 21000 Split
Telephone number	021/535517
E-mail address	tpirsic@fesb.hr
Personal web page	www.fesb.hr/kk
Year of birth	1959.
Scientist ID	134894
Research or art rank, and date of last rank appointment	Higher scientific colaborator 15. 06. 2016.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate proffesor 15. 06. 2016.
Area and field of election into research or art rank	Technical science, general mechanical engineering, construction
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	01. 10. 1987.
Name of position (professor, researcher, associate teacher, etc.)	Proffesor
Field of research	Machine elements, fatigue of materials, transport in industry
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty ofMechanical Engineering and Naval Architecture
Place	Zagreb
Date	15.06. 1999.
INFORMATION ON ADDITIONAL TRAINING	
Year	2001
Place	Bologna, Italy
Institution	University of Bologna
Field of training	Fatogu of materials
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Professor of Enginering graphics 2 Undergraduate study programme,
Authorship of university/faculty textbooks in the field of the course	T. Piršić: Tehničko crtanje, FESB Split, 2010. T. Piršić: AutoCAD u Strojarstvu, FESB Split, 2008.

Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	T. Piršić: “Experimentally Based Method for Fatigue Life Prediction of Aluminium Welded Joints”, Fatigue 99, Proceedings of the 7. International Fatigue Congress, Beijing, P.R. China, Editors X. R Wu and Z. G. Wang, pp. 1309 -1312, Volume 2/4, Higher Education Press, Beijing, P.R. China, Engineering Advisory Services Ltd, UK, 1999. ISBN 1901537080 (Rad objavljen u knjizi) Ž. Domazet, Ž. Lozina, T. Piršić: "Fatigue Damage and Repair of 250 kN Crane in Shipyard", Proceedings of the 10th International Conference on Fracture, Hawai, USA, 2001. Ž. Domazet, T. Piršić: "Fatigue Failures in industry – Case Studies", Proceedings of the 7th International Design Conference, Vol. 2., pp. 1153-1158, ISBN 953-6313-47-9, Dubrovnik, 2002. Ž. Domazet, T. Piršić, M. Stupalo: "Fatigue Damages and Repair of a Cement Mill Gear Wheel", Proceedings of 4th International Congress of Croatian Society of Mechanics, pp. 145-151, ISBN 953-96243-4-7, Bizovac, Croatia, 2003.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken	

in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Srdjan Podrug, Ph.D., Associate Professor**
The course he/she teaches in the proposed study programme	Machine Elements
GENERAL INFORMATION ON COURSE TEACHER	
Address	Kroz Smrdečac 13
Telephone number	+385-91-4305-992
E-mail address	spodrug@fesb.hr
Personal web page	www.fesb.hr/~spodrug
Year of birth	1971
Scientist ID	233771
Research or art rank, and date of last rank appointment	Senior scientific associate, 10/02/2010
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, 17/02/2010
Area and field of election into research or art rank	Technical sciences, Mechanical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	5/02/1996
Name of position (professor, researcher, associate teacher, etc.)	Associate professor
Field of research	Machine Elements, Fatigue, Fracture Mechanics
Function	Chair of Machine Elements
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Ph.D.
Institution	University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	27/09/2004
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian 2
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of	Course teacher of courses: • Machine elements 1 and Machine elements 2 / undergraduate university study Mechanical engineering; • Machine elements / undergraduate university study Naval

study programme)	architecture, undergraduate vocational study Naval architecture and undergraduate university study Industrial engineering • Introduction to fracture mechanics and Mechanical drives / graduate university study Mechanical engineering • Integrity of machines and structures, Fracture mechanics and Machine Elements: Selected chapters / postgraduate university study Mechanical engineering
Authorship of university/faculty textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Jelaska, Damir; Podrug, Srdjan; Perkušić, Milan., Kinematic Synthesis of a Novel Type of the Series of Transmissions with Independently Controllable Output Speed, Mechanism and Machine Theory, 103 (2016); 189-201 2. Jelaska Damir; Podrug Srdjan; Perkušić Milan., A novel hybrid transmission for variable speed wind turbines, Renewable energy, 83 (2015); 78-84 3. Jelaska Damir; Podrug Srdjan; Perkušić, Milan., Proposition of the series of transmissions having an independently controllable output speed, International Journal Advanced Engineering, 6 (2015), 1; 13-21 4. Jelaska, Damir; Podrug, Srdjan; Perkušić, MIlan. On the feasibility of the power split type transmissions having independently controllable output speed, International Journal of Advanced Engineering, 7 (2013) 5. Perkušić, Milan; Jelaska, Damir; Podrug, Srdjan, Estimation of fatigue life of involute gears, Strojarstvo, 54 (2012), 5; 381-391 (in croatian)
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	Development of components life assessment procedures (Project MSES no. 023-0692195-1749), 2007.-2013.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	Training for teachers and administrative staff in the EU project ME4CataLOgue (Mechanical Engineering for Catalogue)
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Grade for this course in the last year: 4,80/5.

First and last name and title of teacher	**Ivica Puljak, Ph.D., Full Professor**
The course he/she teaches in the proposed study programme	Physics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Vinogradska 80, 21000 Split
Telephone number	0915389040
E-mail address	Ivica.Puljak@fesb.hr
Personal web page	
Year of birth	1969
Scientist ID	233396
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, February 2017
Area and field of election into research or art rank	Area of natural sciences, field of physics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split *Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture* R. Boškovića 32 21000 Split Croatia
Date of employment	12.5.1994.
Name of position (professor, researcher, associate teacher, etc.)	professor
Field of research	Physics
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	University of Pierre and Marie Curie
Place	Paris, France
Date	September 2000
INFORMATION ON ADDITIONAL TRAINING	
Year	1994. – 2017. god.
Place	Geneva
Institution	CERN
Field of training	Experimenatal Elementary Particle Physics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	French 5
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Higgs boson physcis, doctoral program, Ecole Polytechnique, Palaiseau, France and ETH, Zurich, Switzerland Numerical method in high energy physics, graduate program, University of Split, Faculty of Scince
Authorship of university/faculty	

textbooks in the field of the course	Faculty text book*:* *Instructions for laboratory exercises in Physics 1*
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. **Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC** By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al., Group Author(s): CMS Collaboration PHYSICS LETTERS B Volume: 716 Issue: 1 Pages: 30-61 Published: SEP 17 2012 2. **Combined results of searches for the standard model Higgs boson in pp collisions at root s=7 TeV** By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al., Group Author(s): CMS Collaboration PHYSICS LETTERS B Volume: 710 Issue: 1 Pages: 26-48 Published: MAR 29 2012 3. **Study of the Mass and Spin-Parity of the Higgs Boson Candidate via Its Decays to Z Boson Pairs** By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al., Group Author(s): CMS Collaboration PHYSICAL REVIEW LETTERS Volume: 110 Issue: 8 Article Number: 081803 Published: FEB 21 2013 4. **Observation of a new boson with mass near 125 GeV in pp collisions at root s=7 and 8 TeV** By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al., Group Author(s): CMS Collaboration JOURNAL OF HIGH ENERGY PHYSICS Issue: 6 Article Number: 081 Published: JUN 2013 5. **Measurement of the properties of a Higgs boson in the four-lepton final state** By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al., Group Author(s): CMS Collaboration PHYSICAL REVIEW D Volume: 89 Issue: 9 Article Number: 092007 Published: MAY 14 2014
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	None
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	***HRZZ Research Projects* (IP-11-2013)**, Croatian Science Foundation (1.10.2014. god. – 30.9.2018. god.). ***HRZZ Research Projects* (Very high energy gamma ray astronomy with the MAGIC telescopes)**, Croatian Science Foundation (1.7.2012. god. – 31.12.2016.).
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	2017 Science and art Award from the University of

	Split 2016 Award for the best presentation from ”Društvo za promociju znanosti i kritičkog mišljenja” 2014 Croatian National Science Award 2014 Science Award from the University of Split 2013 European Physical Society Prize, The 2013 High Energy and Particle Physics Prize *Co-winner as a member of the CMS Collaboration* 2013 Croatian National Order of ”Danica Hrvatska”, with Ruđer Bošković, for scientific contribution 2011 Annual Science Award by the newspaper ”Slobodna Dalmacija” 2011 Distinguished Teaching Award by the student association 2001 Best Thesis Award by the CMS collaboration 2000 PhD from University «Pierre et Marie Currie», Paris VI, obtained with Honours *Très honorable, avec les félicitations du jury*
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Branka Ramljak, PhD**
The course he/she teaches in the proposed study programme	Accounting
GENERAL INFORMATION ON COURSE TEACHER	
Address	Barakovićeva 18, Split
Telephone number	+385 21 430611
E-mail address	bramljak@efst.hr
Personal web page	-
Year of birth	1962.
Scientist ID	165075
Research or art rank, and date of last rank appointment	-
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full professor, 16/10/2014
Area and field of election into research or art rank	Area of social sciences, Field of economics, Accounting
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	University of Split, Faculty of Economics
Date of employment	04/01/1988
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Accounting, financial reporting, accounting policies, accounting costs, accounting for small and medium-sized businesses, non-profit accounting, budget accounting
Function	Head of Department of Accounting
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	University of Split, Faculty of Economics
Place	Split
Date	16/6/1999
INFORMATION ON ADDITIONAL TRAINING	
Year	1992/1997/2002/2005/2010/2011
Place	Bologna- Italy; Lexington-Kentucky, USA; Stoke on Trent-England; Vasteras-Sweden i Budapest–Hungary; Dresden-Germany
Institution	Universita de Bologna; School of Accountancy; Staffordshire University; Malardalen University i Corvinus University; Technische Universitat Dresden
Field of training	The preparation of the master thesis; Preparing a doctoral dissertation; Analysis of curriculum of graduate and postgraduate studies and harmonization curriculum items; Participation in the EU project TEMPUS, called „Towards to Equitable and Transparent Access to Higher Education in Croatia“
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 4 (very good)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of	

foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Basic of Accounting, Undergraduate study programme, Accounting, Undergraduate study programme Cost accounting, Undergraduate study programme
Authorship of university/faculty textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Ramljak, B. (2016), *Uloga računovodstvenih politika u poslovnoj politici trgovačkih društava*, 51. Simpozij „Aktualne dileme i i zazovi računovodstva, revizije i poreza u Republici Hrvatskoj“, Vodice, 02.-04.06.2016. 2. B. Ramljak, P. Pepur: *Compatibility of Accounting Policies in Croatian companies,* 4th International Conference „Vallis Aurea“ Focus on: Regional & Innovation Development, Rad objavljen u Zborniku, Veleučilište u Požegi, September 18th-20th, Pozega – Vienna, Croatia-Austria, 2014., pp. 0559-0563, ISBN 978-3-902734-02-0, ISSN 1847-8204. 3. B. Ramljak, K. Žager: *Stanje i razvoj financijskog izvještavanja malih i srednjih poduzeća u RH i EU*, Rad objavljen u časopisu „Računovodstvo i financije, br. 7., Zagreb, 2013., str. 23-31 4. B. Ramljak: *Racionalizacija troškova u funkciji ostvarenja poslovnog rezultata*, 48. Savjetovanje JESEN 2013 – Računovodstvo, financije i porezi u praksi, Udruge računovođa i financijskih djelatnika, Brela, 24-26.10.2013., str. 1-12 5. B. Ramljak, K. Žager: *Harmonizacija financijskog izvještavanja malih i srednjih poduzeća u RH i EU*, Rad objavljen i izložen u Zbornik radova 48. simpozij „Računovodstvo, porezi i plaće u Hrvatskoj pred ulazak u EU“, HZRFD, Šibenik, 09.-11.05.2013. str. 193-201.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on	4,9/5

grading scale and course evaluated)	

First and last name and title of teacher	**Zlatan Reić**
The course he/she teaches in the proposed study programme	Principles of economics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Cvite Fiskovića 5
Telephone number	021430677
E-mail address	zreic@efst.hr
Personal web page	-
Year of birth	1948.
Scientist ID	40684
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Professor, 17.7 2007.
Area and field of election into research or art rank	Social sciences, economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Economics Split
Date of employment	17. 11. 1972
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Poliotical economy, history of economic thought
Function	Co-holder of the course
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD in economics
Institution	Faculty of Economics Split
Place	Split
Date	12. 6. 1992
INFORMATION ON ADDITIONAL TRAINING	
Year	1996.
Place	Lexington, Kentucky, USA
Institution	Carol Martin Gatton College of Business and Economics
Field of training	Faculty Development Program II
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 4
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Rich experience in similar courses (Introduction to economics, 1st year, undergraduate study)
Authorship of university/faculty textbooks in the field of the course	Reić, Z., Mihaljević Kosor, M., Šimić, V. "Ekonomija", Ekonomski fakultet Split, 2017.
Professional, scholarly and artistic	Reić, Z., Mihaljević Kosor, M., Šimić, V. "Ekonomija",

articles published in the last five years in the field of the course (5 works at most)	Ekonomski fakultet Split, 2017. Reić, Z., Mihaljević Kosor, M., Ekonomija (2011) 3. izmijenjeno izdanje, Ekonomski fakultet Sveučilište u Splitu. Reić, Z., Challenges of Europe: Growth and Competitiveness-Reversing the Trends, Forward, (2011), Conference Proceedings, University of Split, Faculty of Economics.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences.	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Osobna godišnja nagrada grada Splita za doprinos razvoju ekonomske znanosti. 2008.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,5

First and last name and title of teacher	**Ante Rozga, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Statistics, Probability and Statistics.
GENERAL INFORMATION ON COURSE TEACHER	
Address	21000 Split, 166 Vukovarska
Telephone number	021 430-649
E-mail address	rozga@efst.hr
Personal web page	http://www.efst.unist.hr/o-fakultetu/fakultet/djelatnici/osoba/detalji/rozga
Year of birth	1951
Scientist ID	057876
Research or art rank, and date of last rank appointment	Scientific adviser, 2009
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full Professor Tenure, 2014.
Area and field of election into research or art rank	Social Sciences, Economics. Quantitative Methods.
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Economics, University of Split
Date of employment	1.10. 1977.
Name of position (professor, researcher, associate teacher, etc.)	Professor.
Field of research	Quantitative Methods, Statistics. Multivariate Analysis. Survival Analysis. Statistical Methodology in Scientific Research.
Function	Professor.
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Economics.
Place	Split
Date	2001
INFORMATION ON ADDITIONAL TRAINING	
Year	1985/86
Place	London. U.K.
Institution	The London School of Economics and Political Science, Department of Statistics. Graduate studies.
Field of training	Statistics. The Analysis of Time Series.
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian.
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian, 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	French, 3
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	1. Statistics. Undergraduate studies. Faculty of Economics, University of Split. 2. Statistical Analysis. Undergraduate studies. Faculty of Economics, University of Split. 3. Biostatistics. Undergraduate and PhD studies. School

	of Medicine. University of Split. 4. Statistics. Graduate Studies. Faculty of Mechanical Engineering. University of Split. 5. Probability and Statistics. Faculty of Electrical Engineering. University of Split. 6. Statistical Methodology in Scientific Research. PhD Studies. Faculty of Economics, University of Split. 7. Multivariate Analysis. PhD Studies. Faculty of Economics, University of Split. 8. Statistical Methods in Forensics. Graduate Studies. School of Forensic Sciences. University of Split.
Authorship of university/faculty textbooks in the field of the course	1. Rozga A., (1994): *Statistička analiza*. Ekonomski fakultet Split. X+148 pages. 2. Rozga A., (2009): *Statistika za ekonomiste*. Ekonomski fakultet Split. X+336 pages. 3. Rozga A. and B. Grčić., (2009): *Poslovna statistika*. Ekonomski fakultet u Splitu. IX + 271 pages. 4. Pivac S. and A. Rozga., (2007): *Statistika za sociološka istraživanja*. Filozofski fakultet Sveučilišta u Splitu. 264 pages. 5. Pivac S. and A. Rozga., (2008): *Statistika za sociologe*. Filozofski fakultet Sveučilišta u Splitu. 231 pages.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Rozga A., E. Jurun and I. Šutalo (2013): *Correction od Chain-Linking Method by Means of Lloyd-Moulton-Fisher-Tornquist Index on Croatian GDP Data.* Croatian Operational Research Review. 2. Šerić N., A. Rozga and A. Luetić (2014): *Relationship between Business Intelligence and Supply Chain Management for Marketing Decisions.* Universal Journal of Industrial and Business Management, 2; 31-35. 3. Visković J., J. Arnerić and A. Rozga (2014): *Volatility Swiching Between Two Regimes.* International Journal of Social, Human Science and Engineering. Madrid. Spain. Madrid. ISNN: 1307-6892. Vol:9, no 3. 4. Arnerić, J., Čeh-Časni, A., Rozga, A. (2015): *Pre-adjustment Process of Real Retail Trade Series in Croatia*, The Business and Management Review, Vol. 6, No. 2, pp. 104-112, ISSN 2047-2854. 5. Poklepović, T., Aljinović, Z and Rozga, A (2016): *Moments Extraction from Implied Probability Distribution: Nonstructural Approach*. Proceedings of the 02nd International Conference on Business Management and Economics: 02nd ICBME 2016.
Professional and scholarly articles published in the last five years in	

subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. Project: *Building of Macro econometric Model of Croatian Economy*, (code of the project: 055-0551147-1146). 2. Project *Quality Assurance in Higher Education.* UNESCO.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Nina Sirković, Ph.D., Assistant Professor**
The course he/she teaches in the proposed study programme	Communication Skills in English Mechanical Engineering, Industrial Engineering and Naval Architecture
GENERAL INFORMATION ON COURSE TEACHER	
Address	Vukovarska 117, Split
Telephone number	+385 21 305 716
E-mail address	nina.sirkovic@fesb.hr
Personal web page	
Year of birth	1964
Scientist ID	297651
Research or art rank, and date of last rank appointment	Scientific Associate, 21 November 2012
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant Professor, 21 November 2012
Area and field of election into research or art rank	Humanities, Philology
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	1 June 2007
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Philology
Function	Head of General Course Department
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Philosophy, University of Zagreb
Place	Zagreb
Date	7 December 2010
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	English Language 1 and English Language 2, Undergraduate study programme Communication Skills in English, Undergraduate study programme
Authorship of university/faculty	Kovač, Mirjana M.; Sirković, Nina (2014*). Presentation, Writing*

textbooks in the field of the course	*and Interpersonal Communication Skills.* Split, FESB. Kovač, Mirjana, M..Sirković, N.(2015) *Strategije rješavanja poteškoća u komunikaciji na stranom jeziku*. Hrvatska sveučilišna naklada, Zagreb
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	Kovač, Mirjana, Sirković, Nina, „Peer Evaluation of Oral Presentations in Croatia“, in: *English Language teaching,* Canadian Center of Science and Education, Vol. 5, No. 7, Toronto, 2012. (8-16)
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	Kovač, Mirjana Matea, Sirković Nina, Attitudes towards Communication Skills among Engineering Students, in: *English Language Teaching*, Canadian Center of Science and Education ,Vol.10, No. 3, Toronto, 2017.(111-117)
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences	University degree at the Faculty of Philology – pedagogical group
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,8

First and last name and title of teacher	**Ivan Slapničar, Ph.D., Full Professor**
The course he/she teaches in the proposed study programme	Mathematics 1, Mathematics 2
GENERAL INFORMATION ON COURSE TEACHER	
Address	FESB, R. Boškovića 32, B803
Telephone number	021 305893
E-mail address	ivan.slapnicar@fesb.hr
Personal web page	http://www.fesb.hr/~slap
Year of birth	1961
Scientist ID	30650
Research or art rank, and date of last rank appointment	scientific counselor
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full Professor, permanent position, since 2008
Area and field of election into research or art rank	Area od Natural Sciences, Field of Mathematics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	FESB, Split
Date of employment	1985
Name of position (professor, researcher, associate teacher, etc.)	Full Professor
Field of research	Mathematics
Function	Head of the Chair of Mathematics
INFORMATION ON EDUCATION – Highest degree earned	
Degree	dr. sc. (dr. rer. Nat.)
Institution	Fernuniversität Hagen
Place	Hagen, Germany
Date	October 1992
INFORMATION ON ADDITIONAL TRAINING	
Year	2014
Place	Cambridge, MA, USA
Institution	Massachusetts Institute of Technology
Field of training	Fulbright-Schuman International Educator/Lecturer Grant
Year	2009/2010
Place	Berlin, Germany
Institution	Technische Universität Berlin
Field of training	FP7 People "Marie Curie" Intra European Fellowship
Year	2001/2002
Place	Logan, UT, SAD
Institution	Utah State University
Field of training	Visiting Professor of Mathematics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	

COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Lecturer of various courses since 1992.
Authorship of university/faculty textbooks in the field of the course	Ivan Slapničar, Matematika 1, FESB, Split, 2002. (Manualia Universitatis studiorum Spalatensis) Ivan Slapničar, Josipa Barić i Marina Ninčević, Matematika 2 – zbirka zadataka, FESB, Split, 2010. (Manualia Universitatis studiorum Spalatensis)
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Jakovčević Stor, Nevena; Slapničar, Ivan; Barlow, Jesse L. **Forward stable eigenvalue decomposition of rank-one modifications of diagonal matrices,** *Linear Algebra and its Applications*. **487** (2015) 301-315. 2. Jakovčević Stor, Nevena; Slapničar, Ivan. **Forward Stable Computation of Roots of Real Polynomials with Real Simple Roots**, *Applied Mathematics and Information Sciences*. **11** (2017) 33-41. 3. Jakovčević Stor, Nevena; Slapničar, Ivan; Barlow, Jesse L. **Accurate eigenvalue decomposition of real symmetric arrowhead matrices and applications,** *Linear algebra and its applications*. **464** (2015) 62-89. 4. Slapničar, Ivan. **Symmetric matrix eigenvalue techniques,** Handbook of Linear Algebra, Hogben, Leslie (ed.). Chapman & Hall / CRC, Boca Raton, 2013, pp. 55-1-55-23. 5. Slapničar, Ivan. **On the spectra of generalized Fibonacci and Fibonacci-like operators**., *Operators and Matrices.* ***6*** (2012) 49-62.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	1. Accurate and fast matriox algorithms and applications, project MZOS No. 372783-1289, 2007- 2013, principal investigator. 2. Optimization of parameter dependent mechanical systems, HRZZ research project No. 9540, 2015-2019, collaborator.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Prize of the Fernunivesität Hagenu for the best disseration, 1992. Prize of the Croatian Mathematical Society Nagrada for the young scientist, 1996.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Evaluations organized by the Quality Enhancement Centre of the University of Split each semester. Average grade is 4.5 on the 1-5 scale.

First and last name and title of teacher	**Vladimir Šimić**
The course he/she teaches in the proposed study programme	Principles of economics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Cvite Fiskovića 5
Telephone number	021430682
E-mail address	vsimic@efst.hr
Personal web page	-
Year of birth	1978.
Scientist ID	274335
Research or art rank, and date of last rank appointment	
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, 26.3.2013.
Area and field of election into research or art rank	Social sciences, economics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Economics Split
Date of employment	1.10.2001.
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Macroeconomics, monetary economics, globalisation
Function	Co-holder of the course
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD in economics
Institution	Staffordshire University
Place	Stoke-on-Trent, United Kingdom
Date	October, 2008.
INFORMATION ON ADDITIONAL TRAINING	
Year	2005.
Place	Zagreb
Institution	Hrvatska narodna banka
Field of training	Conduct of monetary policy
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German, 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian, 2
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	
Authorship of university/faculty textbooks in the field of the course	Reić, Z., Mihaljević Kosor, M., Šimić, V. "Ekonomija", Ekonomski fakultet Split, 2017.
Professional, scholarly and artistic	Ćorić, B.; Malešević Perović, L. and Šimić, V (2015): A cross-country

articles published in the last five years in the field of the course (5 works at most)	analysis of monetary policy effects on prices. *Finance a úvěr : Czech Journal of economics and finance*. 65 (2015) , 5; 377-390 Ćorić, B.; Malešević Perović, L. and Šimić, V (2016) : Openness and the Strength of Monetary Transmission: International Evidence. *Acta Economica* 66(4); 639-659 Malešević-Perović, L., Šimić, V. and Muštra, V. (2013), Investigating the Influence of Economic and Socio-Political Openness on Growth, *International Journal of Economic Sciences and Applied Research*, Vol. 6, pp. 35-59 Šimić, V. and Malešević-Perović, L. (2012), Monetary Policy Transmission in the Balkans in the 21st Century: Empirical Evidence, *Journal of Economic and Social Studies*, Vol. 2(2), pp. 9-40. ISSN: 1986-8499; Šimić, V. and Muštra, V. (2012), Debts (Public and External) and Growth – Link or No Link?, *Croatian Operational Research Review*, Vol. 3, pp. 91-102, ISSN: 1848-0225;
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	Croatian Scientific Foundation: Project: Effects of Economic Disasters
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences.	Razvoj i usavršavanje pedagoških kompetencija sveučilišnih nastavnika, Split, November 2014.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Award for valuable scientific article, Faculty of Ecoonomics Split, December 2015. Award for valuable scientific article, Faculty of Ecoonomics Split, December 2016.
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,7

First and last name and title of teacher	**Ivica Veža, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Business Systems Organisation
GENERAL INFORMATION ON COURSE TEACHER	
Address	Odeska 13, 21000 Split, HR
Telephone number	+385 21 305933
E-mail address	iveza@fesb.hr
Personal web page	
Year of birth	1951.
Scientist ID	095643
Research or art rank, and date of last rank appointment	Scientific Adviser - Mechanical Engineering, 08.03.2001. Scientific Adviser – Fundamental Technical Science 05.07.2006.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full Professor, 23.01.1998.
Area and field of election into research or art rank	Technical Sciences, Field Industrial engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	1/1/1981
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Plant Layout, Organization, Production Engineering
Function	Head of Chair of Inudstrial Engineering
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Mechanical Engineering and Naval Architecture
Place	Zagreb
Date	9/11/2001
INFORMATION ON ADDITIONAL TRAINING	
Year	1983/84
Place	Stuttgart, Germany
Institution	University of Stuttgart, Fraunhofer – Institut fuer Produktiontechnik und Automatisierung
Field of training	Plant Layout, Simulation
INFORMATION ON ADDITIONAL TRAINING	
Year	1991
Place	Berlin, Germany
Institution	Technical University of Berlin, Fraunhofer IPK
Field of training	Design of Assembly Systems
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Germany (4)
Foreign language and command of foreign language on a scale from 2	

(sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Economics and Production Organisation, Undergraduate study programme,
Authorship of university/faculty textbooks in the field of the course	Dulčić, Želimir; Pavić, Ivan; Rovan, Mario; Veža, Ivica: Proizvodni management, Ekonomski fakultet, FESB Split, Split, 1996.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Perić, Tunjo; Babić, Zoran; Veža, Ivica: Vendor selection and supply quantities determination in a bakery by AHP and fuzzy multi-criteria programming. International journal of computer integrated manufacturing. 26 (2013) , 9; 816-829 2. Veža, Ivica; Mladineo, Marko: SUSTAINABILITY THROUGH PRODUCTION NETWORKS. Management and Production Engineering Review. 4 (2013), 4; 33-39 3. Gjeldum, Nikola; Bilić, Boženko; Veža, Ivica. Investigation and modelling of process parameters and workpiece dimensions influence on material removal rate in CWEDT process. International journal of computer integrated manufacturing. 28 (2015) , 7; 715-728 4. Takakuwa, Soemon; Veža, Ivica: Technology Transfer and World Competitiveness. Procedia Engineering. 69 (2014); 121-127 5. Banduka, Nikola; Veža, Ivica; Bilić, Boženko: An integrated lean approach to Process Failure Mode and Effect Analysis (PFMEA): A case study from automotive industry. Advances in Production Engineering & Management. 11 (2016) , 4; 355-365
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	4. Gečevska, Valentina; Čuš, Franci; Chiabert, Paolo; Veža, Ivica: LINKING LEAN PRODUCTION WITH PRODUCT LIFECYCLE MANAGEMENT FOR SUSTAINABLE BUSINESS ENVIRONMENT, DEVELOPMENT OF INTELLIGENT AND INNOVATIVE TOOLS FOR PRODUCTION PROCESS ENGINEERING AND SUSTAINABLE MANAGEMENT, Čuš, F.; Gečevska, V. (Ed.). Maribor, Slovenija: Faculty of Mechanical engineering, Maribor, 2013. 19-39. 5. Čelar, Stipe; Turić, Mili; Dragičević, Srdjana; Veža, Ivica. Digital Learning Factory at FESB – University of Split , ZBORNIK RADOVA YU INFO 2016, 2016. 001-006 6. Veža, Ivica; Gjeldum, Nikola; Mladineo, Marko: Logistics Personal Excellence by Continuous Self-Assessment (LOPEC): Pilot Implementation - Case Studies. Conference Proceedings - MTSM 2014, Split, 2014. 39-46 7. Stojkić, Željko; Veža, Ivica; Bošnjak, Igor. CONCEPT OF INFORMATION SYSTEM IMPLEMENTATION (CRM AND ERP) WITHIN INDUSTRY 4.0, Proceedings of the 26th DAAAM International Symposium, Beč : DAAAM International, 2016. 912-919
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	4. 2008 – 2013 Project TEMPUS-2008-IT-JPCR 144 959, Master Study Program in Product Lifecycle Management with Sustainable Production 5. 2011-2014 LEONARDO DA VINCI Project “LOPEC - Logistics personnel excellence by continuous self-assessment”, FESB Split, University of Reutlingen 6. 2013-2016 Network of Innovative Learning Factories NIL,

	"System - Learning Factory", FESB, Split, University of Reutlingen 7. 2013-2016 Know-how Exchange on the Consequences and Challenges of the Integration of Key Enabling Technologies in European Manufacturing for the Danube Region, Fraunhofer Institute for Systems and Innovation Research ISI – Karlsruhe 8. 2014-2018 Innovative Smart Enterprise, INSENT, Croatian Science Foundation, Zagreb
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,8/5

First and last name and title of teacher	**Josip Visković, PhD**
The course he/she teaches in the proposed study programme	Finance
GENERAL INFORMATION ON COURSE TEACHER	
Address	Doverska 31, 21000 Split
Telephone number	091/4430-751
E-mail address	jviskovi@efst.hr
Personal web page	
Year of birth	1983
Scientist ID	293632
Research or art rank, and date of last rank appointment	-
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor; February 04th, 2014
Area and field of election into research or art rank	-
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Economics, University of Split
Date of employment	November 02, 2006
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Finance
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Economics, University of Split
Place	Split
Date	July 13th, 2012
INFORMATION ON ADDITIONAL TRAINING	
Year	2007/2008
Place	Prague, Czech Republic
Institution	CERGE-EI (Center for Economic Research and Graduate Education – Economics Institute)
Field of training	Economics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English, 5
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German, 3
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian, 2
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Currently teaching at courses: - International finance I (degree programme; undergraduate programme); - International finance II (degree programme; graduate programme); - International business finance (professional programme; specialist professional graduate

	programme); - International financial management (degree programme; graduate programme); - Monetary economics I (degree programme; undergraduate programme); - Monetary analysis (degree programme; undergraduate programme); - European monetary system (degree programme; graduate programme); Previously teaching at courses: - Basics of Finance (degree programme; undergraduate programme); - Public finance I (degree programme; undergraduate programme); - Public finance II (degree programme; graduate programme)
Authorship of university/faculty textbooks in the field of the course	-
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Visković, J. i Udovičić, M.: Awareness of SMEs on the EU Funds Financing Possibilities: The Case of Split-Dalmatia County, The Economies of Balkan and Eastern Europe Countries in the Changed World (EBEEC) 2016./Knepublishing, KnE Social Sciences, Volume 2017., p. 319-332, 2. Visković, J., Miletić, M. i Pavlović, M.: UPRAVLJANJE VALUTNIM RIZIKOM PODUZEĆA IZVOZNIKA SPLITSKO-DALMATINSKE ŽUPANIJE, Conference Proceedings LIMEN 2015, Beograd 2015, ISBN: 978-86-80194-02-8, p. 71.- 80. 3. Visković, J. i Kalinić, H. Relevantnost virtualnih valuta za nositelje monetarne politike: studija slučaja bitcoin; Financije nakon krize Forenzika etika i održivost, 978-953-281-061-5, Sveučilište u Splitu Ekonomski fakultet, Split, 2014., str. 279. - 300. 4. Visković, J.: Determinants of sovereign credit rating and credit rating agencies faults, Sarajevo Business and Economics Review, Volume 33., ISSN 1968-5473, Ekonomski fakultet u Sarajevu, Sarajevo, 2013. 5. Pečarić, M. i Visković, J.: The effects of prudential policy measures on financial stability in post-transition countries, Proceedings of Rijeka Faculty of Economics: Journal of Economics and Business, Vol. 31. No. 1. lipanj 2013., ISSN 1331-8004 p. 9.-34.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	-
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	“Development strategy of Seget municipality” (2016/2017) “Development strategy of Tkon municipality” (2016/2017) “Development strategy of Split urban agglomeration“ (2015/2016) “Development Bank - Effects on the Economy" for Croatian Bank for Reconstruction and Development, 2014 Associate on scientific project “Financial policy and financial-economic framework of support for small and medium enterprises”, project of Ministry of Science Education and Sport, director: Ljiljana Vidučić (2008-2013)

The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences.	Development and training of pedagogical competences of university teachers, Faculty of Philosophy, University of Split, 2014.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	-
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Centre for quality improvement, University of Split; average grades (global index): 2012/13 – 4,3 (BF), 4,1 (PF I), 4 (PF II), 3,2 (IBF); 4,5 (MA), 4,5 (IF I), 4,2 (IF II), 3,6 (EMS), 4 (FIN) 2013/14 – 4,3 (BF), 4,3 (PF I), 4,2 (PF II), 3,2 (IBF); 4,2 (MA), 4,3 (IF I), 3,5 (IF II), 4,3 (FIN) 2014/15 – 4,5 (BF), 4,7 (PF I), 4,1 (PF II), 3,2 (IBF); 4,7 (MA), 4,8 (IF I), 4,7 (IF II), 4,5 (ME I) 2015/16 – 4,9 (IF I), 5,0 (IF II), 5,0 (ME I) 2016/17 – 5,0 (MA), 4,7 (IBF); 4,8 (IFM) Note: grades are on scale from 1 to 5, where 5 is the best possible grade and 1 is the lowest possible grade; BF – Basics of finance; IF I – International finance I; IF II – International finance II; MA – Monetary analysis, ME I – Monetary economics I, PF I – Public finance I, PF II – Public finance II, IBF – International business finance, IFM – International financial management; EMS – European monetary system,; FIN - Finance

First and last name and title of teacher	**Frane Vlak, Ph. D., Associate Professor**
The course he/she teaches in the proposed study programme	Mechanics 1
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ruđera Boškovića 32
Telephone number	021305971
E-mail address	fvlak@fesb.hr
Personal web page	
Year of birth	1968.
Scientist ID	233385
Research or art rank, and date of last rank appointment	Scientific Adviser, 11/11/2015
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate Professor, 29/9/2011
Area and field of election into research or art rank	Technical Sciences, Field Electrical engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	6/6/1995
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Mechanics of deformable solids
Function	Head of Chair of Mechanics
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	13/1/2006
INFORMATION ON ADDITIONAL TRAINING	
Year	
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian (2)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Technical mechanics 1, Mechanics of materials: Professional studies of mechanical engineering and naval architecture, Undergraduate study programme Mechanics of materials: University studies of mechanical engineering, naval architecture and industrial engineering, Undergraduate study programme

Authorship of university/faculty textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Barle, Jani; Grubišić, Vatroslav; Vlak, Frane. Failure analysis of the highway sign structure and the design improvement. // Engineering failure analysis. 18 (2011) , 3; 1076-1084 (članak, znanstveni). 2. Vlak, Frane; Cvitanić, Vedrana; Vučina, Damir. An approach for reduction of the volume loss in the rigid-plastic FEM using two-step updating procedure. // International journal of mechanical sciences. 53 (2011) , 10; 839-845 (članak, znanstveni). 3. Pavazza, Radoslav; Vlak, Frane; Vukasović, Marko. Bending and torsion of stiffeners with L sections under the plate normal pressure // Advanced Ship Design for Pollution Prevention / Soares, Guedes C. ; Parunov, Joško (ur.). London : CRC Press/Balkema, Taylor & Francis Group, 2010. Str. 121-127. 4. Vlak, Frane; Pavazza, Radoslav; Vukasović, Marko. An approximate analytic solution for the stresses and displacements of thin-walled orthotropic beams subjected to bending // 16th European Conference on Composite Materials ECCM16-Conference Proceedings-Seville, Spain: University of Seville, Spain, 2014. / Paris, Federico (ur.). Seville : University of Seville, 2014. 1-8 (predavanje,međunarodna recenzija,objavljeni rad,znanstveni). 5. Pavazza, Radoslav; Matoković, Ado; Vlak, Frane. An analytical solution for displacements and stresses for mono symmetrical stiffend plate structures under transverse loads // Knjiga sažetaka XX. simpozija Teorija i praksa brodogradnje in memoriam prof. Leopolod Sorta / Žiha, Kalman (ur.). Zagreb : Fakultet strojarstva i brodogradnje, Brodarski institut d.o.o., 2012. 76-76 (predavanje,međunarodna recenzija,objavljeni rad,znanstveni).
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	9.
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	ME4CataLOgoue (Mechanical Engineering for Catalogue) Croatian Catalogue of knowledge, skills and competences for Mechanical Engineering studies (Bachelor, Master and Doctoral study programmes) based on learning outcomes
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation	

organizer, average grade, note on grading scale and course evaluated)	

First and last name and title of teacher	**Damir Vučina, Ph. D., Full Professor**
The course he/she teaches in the proposed study programme	Computer aided analysis Introduction to information systems
GENERAL INFORMATION ON COURSE TEACHER	
Address	FESB, R. Boškovića 32, 21000 Split
Telephone number	021 305 969
E-mail address	vucina@fesb.hr
Personal web page	
Year of birth	1962
Scientist ID	129716
Research or art rank, and date of last rank appointment	Scientific Adviser, 2005
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full Professor, 2005
Area and field of election into research or art rank	Technical Sciences, Fundamental Technical Sciences
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	1985
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	Numerical methods in engineering and optimization
Function	Head of group for modeling and computer-aided analysis
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Fakultet strojarstva i brodogradnje
Place	Zagreb
Date	1993
INFORMATION ON ADDITIONAL TRAINING	
Year	Fulbright grant, Columbia University New York Several courses at CISM Italy
Place	
Institution	
Field of training	
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Computer.aided analysis Optimization methods Programming Graduate courses

Authorship of university/faculty textbooks in the field of the course	D. Vučina, 'Metode inženjerske numeričke optimizacije', Sveučilište u Splitu, FESB 2005 Damir Vučina, 'Primjena računala u inženjerskoj analizi', FESB, 2007
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	**p1.** Ćurković, M.; Vučina, D. 3D Shape acquisition and integral compact representation using optical scanning and enhanced shape parameterization. Advanced engineering informatics. 28 (2014) , 2; 111-126, IF 2.086. **p2.** Vučina, D.; Ćurković, M.; Novković, T. CLASSIFICATION OF 3D SHAPE DEVIATION USING FEATURE RECOGNITION OPERATING ON PARAMETERIZATION CONTROL POINTS. // Computers in industry. 65 (2014) , 6; 1018-1031. IF 1.457. **p3.** Milas, Zoran; Vučina, Damir; Marinić-Kragić, Ivo. MULTI-REGIME SHAPE OPTIMIZATION OF FAN VANES FOR ENERGY CONVERSION EFFICIENCY USING CFD, 3D OPTICAL SCANNING AND PARAMETERIZATION. // Engineering Applications of Computational Fluid Mechanics. 8 (2014), 3; 407-421. IF 0.921. **p6.** Vučina, D.; Lozina, Ž.; Pehnec, I. Ad-Hoc Cluster and Workflow for Parallel Implementation of Initial-Stage Evolutionary Optimum Design. Structural and multidisciplinary optimization. 45 (2012) , 2; 197-222. IF 1.488. **p5.** Vučina, D.; Lozina, Ž.; Pehnec, I. Computational procedure for optimum shape design based on chained Bezier surfaces parameterization. Engineering applications of artificial intelligence. 25 (2012) , 3; 648-667. IF 1.665.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	s.a.
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	s.a..
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	continuously
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	1. Columbia University, New York, USA, 1986- 1987, dobitnik US Fulbright stipendije 2. Sveučilište u Splitu, za tehničke znanosti, 2014
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	excellent

First and last name and title of teacher	**Dražen Živković, Ph.D. Full Professor**
The course he/she teaches in the proposed study programme	Materials 1, Materials 2, Technology 1,
GENERAL INFORMATION ON COURSE TEACHER	
Address	Rovinjska 4, 21000 Split, Republic of Croatia
Telephone number	+385 21 305910
E-mail address	Drazen.Zivkovic@fesb.hr
Personal web page	/
Year of birth	1957.
Scientist ID	044701
Research or art rank, and date of last rank appointment	Scientific Adviser, 21/01/2009.
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Senior Full Professor, 05/06/2014
Area and field of election into research or art rank	Technical Sciences, Field: Mechanical engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Date of employment	13/09/1983.
Name of position (professor, researcher, associate teacher, etc.)	Professor
Field of research	
Function	Head of Mechanical Engineering Technology Department
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture
Place	Split
Date	04/09/1999.
INFORMATION ON ADDITIONAL TRAINING	
Year	/
Place	/
Institution	/
Field of training	/
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Croatian
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	German (2)
COMPETENCES FOR THE COURSE	
Earlier experience as course teacher of similar courses (name title of course, study programme where it is/was offered, and level of study programme)	Materials, , Basic of Tribology (530) Materials 1, Materials 2, Technology 1, Tribology, (130, 140, 150) Heat treatment and surface protection (263)

Authorship of university/faculty textbooks in the field of the course	Dražen, Živković: Lijevanje, ISBN 978-953-6114-91-7
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	1. Živković, Dražen; Gabrić, Igor; Šitić, Slaven. Popravak zavarivanjem konstrukcija iz titanovih legura. // Strojarstvo. 53 (2011) , 4; 319-326 2. Živković, Dražen; Gabrić, Igor; Šitić, Slaven. Utjecaj niskog i visokog popuštanja na tvrdoću čelika EN 42CRM04. // Tehnički glasnik. 6 (2012) 3. Živković, Dražen; Gabrić, Igor; Šitić, Slaven. Analiza utjecaja parametara toplinske obrade na tvrdoću čelika EN 42CrMo4 // MATRIB 2012 materials/tribology/recycling : zbornik radova = conference proceedings / Željko Alar, Suzana Jakovljević (ur.). Zagreb : Hrvatsko društvo za materijale i tribologiju, 2012. 379-386 4. Živković, Dražen; Gabrić, Igor; Šitić, Slaven. Utjecaj toplinske obrade na dinamičku izdržljivost čelika EN 42CrMo4 // International conference Heat Treatment and Surface Engineering - European Opportunities for Croatian Economy : proceedings book = Međunarodno savjetovanje Toplinska obrada i inženjerstvo površina - europske mogućnosti hrvatskog gospodarstva : zbornik radova / Smojan, Božo ; Iljkić, Dario (ur.). Rijeka : Hrvatsko društvo za toplinsku obradu i inženjerstvo površina, 2012. 67-74 5. Ljumović, Petar; Živković, Dražen; Dadić, Zvonimir; Gabrić, Igor. IZBOR MATERIJALA KALUPA ZA VISOKOTLAČNO LIJEVANJE // MATRIB 2014, materials, tribology, recycling / Šolić, Sanja ; Šnajder Musa, Matea (ur.). Zagreb : Hrvatsko društvo za materijale i tribologiju, 2014. 307-317
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	/
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	Projekt: „Računalno optimiranje parametara termalnih procesa obrade metala“, voditelj prof.dr.sc. Božo Smoljan
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije?	/
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	/
Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	4,8/5

3.4. Optimal number of students

The admission quote for the first year of studies is 50.

3.5. Estimate of costs per student

Annual costs of studies per student amount to HRK 25,000.00.

3.6. Plan of procedures of study programme quality assurance

<table>
<tr><td colspan="2">In keeping with the European standards and guidelines for internal quality assurance in higher education institutions (according to “Standards and Guidelines of Quality Assurance in the European Higher Education Area”) on the basis of which the University of Split defines procedures for quality assurance, the proposer of the study programme is obliged to draw up a plan of procedures of study programme quality assurance.</td></tr>
<tr><td colspan="2">Documentation on which the quality assurance system of the constituent part of the University is based:</td></tr>
<tr><td colspan="2">• Regulations on the quality enhancement system of FESB
• Quality Assurance Handbook of the constituent part</td></tr>
<tr><td colspan="2">Description of procedures for evaluation of the quality of study programme implementation:
• For each procedure the method needs to be described (most often questionnaires for students or teachers, and self-evaluation questionnaire), name the body conducting evaluation (constituent part, university office), method of processing results and making information available, and timeframe for carrying out evaluation
• If procedure is described in an attached document, name the document and the article.</td></tr>
<tr><td>Evaluation of the work of teachers and part-time teachers</td><td>• Student evaluation of quality of instruction and teaching activities conducted through student survey (printed questionnaires)
• Survey is organised and conducted by the Quality Enhancement Committee of the Faculty (Committee)
• Survey results are processed automatically at the University
• Survey is conducted each semester
• The Committee presents cumulative results of the survey at the sessions of the Faculty Council. The report is published at the Faculty web site.
All procedures are conducted in accordance with the Regulations on organisation and role of the quality assurance system of the University of Split, Regulations on procedure of student evaluation of the quality of teachers and teaching of the University of Split and Regulations on the quality enhancement system of FESB.</td></tr>
<tr><td>Monitoring of grading and harmonization of grading with anticipated learning outcomes</td><td>Committee for study programmes in Mechanical Engineering, Naval Architecture and Industrial Engineering is monitoring the harmonisation of grading and learning outcomes.</td></tr>
</table>

	All the procedures are conducted in accordance with the Rules of procedure of the Faculty Council and the Rules of procedure of the Department, since the Committees for study programmes are bodies of the Faculty Council and are accountable to the Faculty Council.
Evaluation of availability of resources (spatial, human, IT) in the process of learning and instruction	• Student evaluation of work performance of administrative and supporting services, learning infrastructure and student life is conducted through e-survey • Evaluation is conducted using an on-line questionnaire which the students complete in each year of study, except the final year • Survey is organised by the Quality Enhancement Centre of the University of Split, and is implemented by the Quality Enhancement Committee of the Faculty (Committee) • Survey results are processed automatically at the University • Survey is conducted every year • Survey results are presented at the Faculty Council sessions and published at the Faculty web site.
Availability and evaluation of student support (mentorship, tutorship, advising)	• Administrative and supporting services are available to students to provide support in their study activities • Supervisors/ mentors are appointed for students' final papers and diploma thesis
Monitoring of student pass/fail rate by course and study programme as a whole	• Analysis of student pass rate by courses and study programmes is carried out once a year • Analysis of pass rate by study programmes is carried out by the University in cooperation with the Committee • Analysis by courses and study programmes is carried out by the Faculty Management Board • Results of both analyses are presented at the Faculty Council sessions and published at the Faculty web site.
Student satisfaction with the programme as a whole	• Student evaluation of work performance of administrative and supporting services, learning infrastructure and student life is conducted through e-survey • Evaluation is conducted using an on-line questionnaire which the students complete following the completion of studies • Survey is organised by the Quality Enhancement Centre of the University of Split, and is implemented by the Quality Enhancement Committee of the Faculty (Committee) • Survey results are processed automatically at the University • Survey results are presented at the Faculty Council sessions and published at the Faculty web site.
Procedures for obtaining feedback from external parties (alums, employers, labour market and other relevant organizations)	• Once every month, the Faculty Management Board meets with the alumni representatives • Once a year, during the annual FESB anniversary event, round tables and workshops are organised with representatives of employers and other stakeholders
Evaluation of student practical education (where this applies)	Student training is not a mandatory part of the programme. Some of the students complete elective-based training abroad

Other evaluation procedures carried out by the proposer	• Internal audit of the quality assurance system is conducted once every year • Self-evaluation is carried out every 5 years All the procedures are conducted in line with the Quality Assurance Handbook of FESB.
Description of procedures for informing external parties on the study programme (students, employers, alums)	• All information are available through the Faculty web site: https://www.fesb.hr • Visits to the faculty are organised for high-school students from Split and the wider region • Participation at University fairs • Public media presentations