



UNIVERSITY OF SPLIT

FACULTY OF CHEMISTRY AND TECHNOLOGY

ELABORATE ON THE STUDY PROGRAMME

Postgraduate University (Doctoral) Study of
Chemistry and Chemical Engineering

SPLIT, June, 2022

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GENERAL INFORMATION OF HIGHER EDUCATION INSTITUTION

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GENERAL INFORMATION OF THE STUDY PROGRAMME

Name of the study programme	Chemistry and Chemical Engineering		
Provider of the study programme	Faculty of Chemistry and Technology University of Split		
Other participants			
Type of study programme	Vocational study programme <input type="checkbox"/>		University study programme <input checked="" type="checkbox"/>
Level of study programme	Undergraduate <input type="checkbox"/>	Graduate <input type="checkbox"/>	Integrated <input type="checkbox"/>
	Postgraduate <input checked="" type="checkbox"/>	Postgraduate specialist <input type="checkbox"/>	Graduate specialist <input type="checkbox"/>
Academic/vocational title earned at completion of study	Doctoral or Ph.D. degree in natural sciences, in the field of chemistry		
	Doctoral or Ph.D. degree in technical sciences, in the field of chemical engineering		

1. INTRODUCTION

1.1. Reasons for starting the study programme

Until 2021, there were two postgraduate doctoral studies being held at the Faculty of Chemistry and Technology (FCT) in Split, one in the area of technical sciences - the field of chemical engineering known as Chemical Engineering in Materials Development and Environmental Protection, and the other in the area of natural sciences - the field of chemistry called/better known as Chemistry of the Mediterranean Environment. At the beginning of 2018, the Agency for Science and Higher Education carried out an external evaluation procedure which resulted in the re-accreditation of the doctoral studies at FCT. Following the re-accreditation procedure, the Accreditation Council of the Agency for Science and Higher Education prepared reports on the re-accreditation of the postgraduate university (doctoral) studies at FCT, which also contain recommendations for their improvement. Based on the reports and recommendations issued by the Accreditation Council, the Ministry of Science and Education of the Republic of Croatia then issued certificates confirming that the Faculty of Chemistry and Technology of the University of Split meets all the necessary criteria for performing the activities related to the implementation of study programmes of the postgraduate university (doctoral) study of Chemical Engineering in Materials Development and Environmental Protection (19th December 2018, class: 602-04 / 18-04 / 0010, Reg. No.: 533-19-0010) and of the postgraduate university (doctoral) study of Chemistry of the Mediterranean Environment (19th December 2018, class: 602-04 / 18-04 / 0010, Reg. No.: 533-19-0009).

In the re-accreditation reports, most of the parameters received high marks for their levels of quality/were evaluated a high level of quality (justification of the existing studies, learning outcomes, teachers, mentors, resources regarding teaching materials and the physical environment in which learning takes place as well as scientific productivity). Improvements suggested in terms of a thorough reorganization of the existing study programmes or merging two existing study programmes into a single one. The basis for all the proposed subjects of the study programmes in question should be the scientific research carried out by the course teachers.

In accordance with the re-accreditation recommendations, and in order to achieve greater visibility of research outcomes, as well as to raise the quality level of its postgraduate doctoral studies, FCT has developed a new postgraduate doctoral study entitled Chemistry and Chemical Engineering. This new postgraduate doctoral study programme is envisaged and organized in such a way that it is oriented towards the creation of a much wider field of scientific research and research clusters in order to increase visibility and improve the internationalization of study programmes. A sustainable economy and a civic society are among Croatia's key strategic factors of development. It is on these principles that Croatia will base its economic growth and development by increasing productivity in both the public and the private sector, by working on gathering new data, expanding on the existing findings, amassing a new wealth of information and applying the existing scientific knowledge to encourage investment, innovation, new technologies and the development of an export-oriented economy. All policies put forward for the improvement of human resources will be based on investing in people, on lifelong learning processes and acquiring practical life

skills as well as on improving job quality and ensuring that members of all social groups have access to fair employment and participate in the workforce. Therefore, in the labour market, what is absolutely crucial to incentivize economic growth, is a thoroughly modern approach to education as well as increasing one's competencies and skills. By launching a new postgraduate doctoral study of chemistry and chemical engineering, the education of doctoral students is oriented on what the FCT, the University of Split and the region as a whole require to ensure their further growth and development. Studying at other universities not only significantly increases the total cost of doctoral studies but it also affects the quality of life and causes talented young people to emigrate from these parts of Croatia. The existence of various postgraduate studies in the Republic of Croatia has come to prove the validity of the regional development concept where young professionals, upon graduation, find it easier to stay in their respective regions and contribute to raising the quality of research there working in a more direct contact with their mentors.

The study programme is based on modern scientific knowledge in the area of natural and technical sciences, in the field of chemistry and the field of chemical engineering, and as such is in line with new trends in interdisciplinary studies. By studying at this postgraduate doctoral study, each student develops the skills of creative thinking and reasoning, as well as the ability to work independently and as part of a team. The curriculum of postgraduate doctoral studies is based on an interdisciplinary approach in the selection of curricula from several scientific branches in both scientific fields: research work in the field of chemistry or chemical engineering.

The joint study programme enables a better connection between basic and applied research in the field of chemistry as well as in the field of chemical engineering because science, in general, is increasingly blurring the demarcation lines between different areas and fields, especially those that have a common denominator, in this case - chemistry. This in turn enables the creation of prerequisites necessary for a greater implementation of scientific research results in various segments of human activity (medical application of various compounds derived from biological/natural sources, the improvement of analytical procedures, the improvement of unit operations in the chemical industry, the application of materials with improved properties and the protection of the environment).

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

The program of this postgraduate doctoral study is structured in such a way that the contents from the area of basic and applied natural sciences (the field of chemistry) and the area of basic and applied technical sciences (the field of chemical engineering) successfully complement and expand on each other. This will ensure that students acquire knowledge in accordance with the needs of the local community, the Croatian society and the national strategy for the development of science and education. Students will transfer their acquired scientific knowledge onto others through their scientific research or a doctoral dissertation and thus systematically connect science and society, and the economy in particular. In addition, the study program is in line with the needs of the University of Split, a leader and an important driving force behind a faster economic growth of the region and knowledge-based entrepreneurship, smart

specializations and an environmentally friendly and sustainable development of society.

1.3. Compatibility with requirements of professional organizations

There are three professional associations within the FCT: the Croatian Chemical Society - Split which is part of the Croatian Chemical Society (HKD), the Association of Chemical Engineers and Technologists - Split which is part of the Croatian Society of Chemical Engineers and Technologists (HDKI) and the Association of Former Students and Friends of the FCT (the ALUMNI). The proposed doctoral study is in line with the recommendations of the chief national professional associations dedicated to the relevant scientific fields, (namely, the Croatian Chemical Society (HKD) and the Croatian Society of Chemical Engineers and Technologists (HDKI)), on further developing the scientific fields of chemistry and chemical engineering throughout Croatia. Furthermore, the postgraduate doctoral study takes into account all the specifics/the specific/unique nature of the scientific research topics that form an integral part of the scientific projects being carried out at the FCT.

These associations regularly organize lectures with the aim of promoting, developing and improving scientific and professional activities in all areas of chemistry and chemical engineering, primarily at the local level in the Split-Dalmatia County. The ALUMNI association contributes to the popularization of science and professional work as well as lifelong learning, which also encourages/aids the development of this doctoral study. Lectures organized by these associations will serve as a means of disseminating information of the research results obtained by doctoral students attending this study programme.

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

The proposed study programme is based on an interdisciplinary approach in the selection of educational content in the scientific area of natural sciences (the field of chemistry) and the scientific area of technical sciences (the field of chemical engineering).

Possible partners outside the system of higher education that have shown interest thus far and formed a partnership with the FCT (some of them already function as teaching bases for the FCT or are ready to act as teaching bases and provide their assistance with the equipment they have at their disposal) and plan to further educate and train young people are:

- The Institute of Oceanography and Fisheries
- The Institute for Adriatic Crops and Karst Reclamation
- The Ruđer Bošković Institute
- MEDILS
- The Hydrographic Institute of the Republic of Croatia
- The Croatian Agency for Medicinal Products and Medical Devices
- The Teaching Institute for Public Health of the Split-Dalmatia County
- Clinical Hospital Centre Split (KBC-Split)/The University Hospital of Split
- chemical, food and pharmaceutical industries
- utility companies
- other state and local institutions.

1.5. Financing

The proposed study programme is going to be financed primarily by tuition fees, whose exact amount is to be determined based on the decisions made by the Faculty Council of the FCT and/or the proposals put forward by the University of Split. The costs of research funding (the experimental part), which are estimated once the doctoral dissertation has been approved, can be co-financed or fully covered by the funds set aside for scientific projects carried out at the FCT, or defined by contracts with other institutions (companies, state and public administration). Research funding for self-financing doctoral students is to be specified in the contract made between the FCT and the doctoral student.

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

The proposed study programme of this postgraduate doctoral study is partly comparable with other study programmes held at Croatian and/or European universities, such as: The Faculty of Chemical Engineering and Technology, University of Zagreb, The Faculty of Science, University of Zagreb and at universities in neighbouring countries: La Sapienza, University of Rome (Dipartimento di Ingegneria Chimica, dei Materiali, delle Materie prime e Metalurgia), Italy; The Faculty of Chemistry and Chemical Technology, University of Maribor, Slovenia; Eötvös Loránd University of Budapest, Hungary. Although similar and comparable to the above study programmes, this study programme has its own specificities, its own unique features, which contribute to its appeal, distinguish it from numerous others of its kind and generate interest in it in terms of student mobility within European universities within the scientific fields it covers.

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

The proposed study follows the principles of the Bologna Process, and is organized in such a way that it focuses on direct teaching in the first year of study during which students enroll courses with relatively low number of class sessions (two compulsory courses and two to four electives, depending on student needs and interests), which is one of the important prerequisites for their mobility. The second and third year of study are dedicated in their entirety to scientific research conducted by students and to the presentation of the results of doctoral dissertations by means of articles published in scientific journals and scientific conferences. The proposed study programme enables students to acquire the necessary ECTS credits by choosing among the wide selection of courses offered by similar and related postgraduate university studies at other faculties and universities. Furthermore, students of other doctoral studies are allowed to enroll in the courses offered by this study programme. Student mobility will be encouraged by their involvement in scientific research in other scientific institutions, i.e., all efforts will be made to include students in international projects in which teachers or employees of the FCT are participating. During their studies, students will be able, depending on the situation, to attend lectures and/or

participate in the process of experimental research led by foreign lecturers and scientists collaborating on joint international projects with employees of the FCT.

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

The program of this postgraduate doctoral study is in accordance with the mission, the vision and the goals of the Scientific Development Strategy of the University of Split for the period from 2022 to 2026. The strategy and the plan for scientific progress set the goals of strengthening the University through the realization of basic goals and tasks determined within the strategic area of science, art and innovation. The strategic commitment of the FCT is to achieve excellence in scientific research and teaching in the area of technical sciences (the field of chemical engineering) and in the scientific area of natural sciences (the field of chemistry). The plans for development put together by the FCT give a significant amount of attention to and emphasis on a continuous development of postgraduate university studies, on the education and training of new/future generations of researchers who will possess a high level of scientific competencies and will have developed general skills (analytical and critical thinking, problem solving, communication skills, the necessary training and qualifications and project management skills). This is in line with the lifelong education of experts in the field of strategic priorities of the Republic of Croatia.

The proposed study programme is in accordance with the Strategy of the University of Split 2021-2025: Mission, vision and strategic guidelines (Split, March 2021, available at:

<https://www.unist.hr/DesktopModules/Bring2mind/DMX/API/Entries/Download?PortalId=0&TabId=1847&EntryId=1850>), which encourages all faculties to create their own internal plans for scientific development with a clear mission and vision for scientific development in their own areas and fields of interest. The proposed study programme is also in line with the FCT Development Strategy for the period 2021-2025. (Class: 024-01 / 21-03 / 0002, Reg. No.: 2181-234-01-21-0008, Split, 16 November 2021, available at:

https://www.ktf.unist.hr/images/stories/repositorij/Dekanat/Strategija_razvoja_2021_2025.pdf; Strategic objective 3: Scientific and professional activity - Scientific excellence (Tasks 3.1-3.7) and Postgraduate education (Task 3.8-3.10), Strategic objective 5: Organization and resources, Postdoctoral training (Task 5.9. Develop organized postdoctoral training) and Strategic Objective 6: Mobility, More Active Involvement in the ERA (Task 6.1-6.4).

The proposed postgraduate doctoral study of Chemistry and Chemical Engineering is defined by the focus of its scientific research being placed on three thematic areas. The three scientific areas in question are the following: 1. Research and development of environmentally friendly materials and sustainable technologies, 2. Profiling and the potential of natural organic compounds, 3. Development of advanced methods of analysis.

The proposed study is to be organized by employing institutional strategic transparency with a detailed quality assurance and quality monitoring system in place.

1.9. Current experiences in equivalent or similar study programmes

Since 1972, the Faculty of Chemistry and Technology (FCT) in Split has been continuously organizing and conducting postgraduate master's and doctoral studies in the field of chemical engineering in cooperation with the faculties of the University of Split and other Croatian universities. Therefore, it was as early as 1972, that the very first classes on Engineering Chemistry were being organized and conducted, and in 1978 there were already classes on Engineering Chemistry - Chemistry and Technology of Macromolecules (at the University of Zagreb). The postgraduate scientific (master's) study of Engineering Chemistry in the field of chemistry and the field of chemical engineering has been conducted since 1983. The program is being regularly updated in accordance with the latest scientific knowledge in the world as well as to inform on and include research novices in the latest scientific research. In 2001, a new study programme entitled Chemical Engineering in Materials Development was implemented as a master's and a doctoral study in the scientific field of chemical engineering, and in 2008 the postgraduate doctoral program in Chemical Engineering in Materials Development and Environmental Protection, was adapted to meet the requirements of the Bologna Declaration.

Since 2012, in cooperation with the Ruđer Bošković Institute, a postgraduate doctoral study in the field of chemistry entitled Chemistry of the Mediterranean Environment has been carried out at the FCT.

By 2012, 33 master's theses and 47 doctoral dissertations were defended at the FCT. From 2012 until today, 19 doctoral dissertations have been defended in the doctoral studies of FCT, structured/conceived according to the guidelines of the Bologna Declaration. Currently there are another 10 doctoral students who are in the process of writing a doctoral dissertation.

Based on the re-accreditation recommendation from 2018 and based on previous experience in conducting studies, it was concluded that the two existing separate studies are to be merged and combined into just one, with the possibility of obtaining a doctorate in the area of natural sciences and in the area of technical sciences.

2. DESCRIPTION OF THE STUDY PROGRAMME

2.1. General information

Scientific/artistic area of the study programme	Scientific area: Natural sciences, Scientific field: Chemistry (all branches) Scientific area: Technical sciences, Scientific field: Chemical engineering (all branches)
Duration of the study programme	3 years
The minimum number of ECTS required for completion of study	180
Enrolment requirements and admission procedure	<p>The enrolment requirement is a graduate university degree (previously an undergraduate study) in the field of chemistry, chemical engineering, food technology and biotechnology as well as having completed some of the related studies followed by taking the necessary supplemental/ differential exams.</p> <p>What qualifies as a related study programme and the material covered by supplemental exams is left for the Faculty Council to determine, at the request of the Committee for University Postgraduate Doctoral Studies.</p> <p>Applicants whose university grade point average is > 3.5 or who submit two relevant recommendations are able to enroll in the study.</p> <p>Admission to university postgraduate (doctoral) study will be carried out based on the decision made by the Faculty Council of the FCT and the results of a public tender.</p> <p>The number of applicants is decided by the Faculty Council at the proposal of the Committee for University Postgraduate Doctoral Studies.</p>

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

The postgraduate doctoral study of Chemistry and Chemical Engineering ensures that its learning outcomes are of the highest possible level, and that its doctoral students develop all the appropriate competencies. Doctoral students acquire the aforementioned competencies in accordance with level 8.2. of the Croatian Qualifications Framework (CroQF), i.e., in accordance with the 8th level of the European Qualifications Framework (EQF). Doctors from the scientific fields of natural and technical sciences, scientific fields of chemistry and chemical engineering are trained to be independent researchers in all aspects of their future work and career.

Learning outcomes:

1. Adopt and apply advanced theories and procedures that lead to shifting boundaries of knowledge in the field of scientific research.
2. Creative thinking and reasoning.
3. Search the pertinent literature and databases in order to analyze the information thus obtained.
4. Independently plan and organize scientific research.
5. Write and publish original scientific papers in international peer-reviewed journals referenced in relevant databases.
6. Doctoral students are able to prepare and present the results of their research at international scientific and professional conferences.
7. Doctoral students are able to explain and elaborate on the results of their scientific research when engaging in a discussion with other scientists active in that field of research.
8. Doctoral students upon finishing their studies are able to apply ethical principles and take social responsibility in conducting scientific research.
9. Critically examine and evaluate the results of scientific research and original scientific papers written and published by other authors in their shared field of research.
10. Apply the results of scientific research and thus contribute to social and economic development.

2.3. Employment possibilities

The proposed study programme of the university postgraduate doctoral study of Chemistry and Chemical Engineering is based on an interdisciplinary approach in selecting the pertinent educational content and materials from several scientific branches in the scientific fields of chemistry and chemical engineering. Upon successful completion of this study, one acquires the knowledge necessary in order to be able to independently organize and conduct scientific research, to process, examine and present the results obtained and to publish an original piece of research. Candidates are offered employment opportunities as well as postdoctoral training at numerous institutions in the country and abroad. Doctors of science can be employed in higher education institutions, scientific research institutes, ministries, public health institutes, industry, local, regional and state agencies etc.

An analysis of the most recent FCT doctoral studies in the field of chemistry and chemical engineering indicates that the applicants come from the system of higher education (for example, assistants at FCT and at other faculties in Croatia and abroad). However it is important to note that numerous applicants outside the system of higher education are also enrolled in the studies in order to further develop their competencies and to advance in their career. In the case of most of these students/For most of these students, it is their employers who bear the costs of the studies, which is a valuable indicator of the employers' desire to present their employees with an opportunity to continuously grow as professionals, to gain new qualifications and to perfect their skills, all with the objective of better serving their company and improving their business.

Educating and preparing new generations of researchers, who will possess a high level of scientific competence and who will develop general skills (such as analytical and critical thinking, problem solving, communication skills, ability to work

independently and collaborate with others in a team, leadership and project management skills), is a key prerequisite for quality lifelong education of experts in the areas that represent the strategic priorities for development in Croatia. Furthermore, what is expected here is the development of a strong partnership with the industry and, therefore, a significant amount of interest among students with background in the manufacturing, private and public sector for programs in the field of chemistry and chemical engineering offered by the proposed study. On the other hand, by preparing their doctoral dissertation, students will be able to implement the latest scientific knowledge in their chosen field of interest and activities/in their own companies.

2.4. Possibilities of continuing studies at a higher level

A doctoral study is the highest possible level of study and it enables participation in postdoctoral training programmes in both Croatia and abroad.

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

Candidates who have completed university graduate studies in the fields of chemistry, chemical engineering, food technology and pharmacy can enroll in the postgraduate doctoral study of Chemistry and Chemical Engineering.

Direct enrolment is reserved for those candidates who have completed university graduate studies at one of the following universities: The Faculty of Chemistry and Technology, University of Split; The Faculty of Chemical Engineering and Technology, University of Zagreb; The Faculty of Science, University of Split (The Department of Biology and Chemistry); The Faculty of Science, University of Zagreb (The Department of Chemistry) and at the Department of Chemistry, University of Osijek.

It is the duty of the Faculty Council to make a decision and formally approve or deny the admission of applicants from other higher education institutions. The Decision is based on the proposal put forward by the Committee for University Postgraduate Doctoral Study. The process of recognition of international qualifications takes place according to the applicable legal acts enforced in the Republic of Croatia.

2.6. Structure of the study

The proposed postgraduate doctoral study has the expected duration of 6 (six) semesters, i.e., at least 3 years with a nominal workload of 60 ECTS credits per year (180 ECTS in total). The study programme includes a teaching and an independent research component under the supervision of a mentor. This study emphasizes the independent scientific research activity of the student under the supervision of a mentor. The structure of the study is shown in Table 1.

Table 1: The structure of the postgraduate (doctoral) study of Chemistry and Chemical Engineering

	Semester						Number of ECTS credits
	I.	II.	III.	IV.	V.	VI.	
Obligations of the doctoral student							
Mandatory courses							
1. Scientific work methodology and publication	+						5
2. Statistics and Chemometrics	+						5
Elective courses							
1. Elective course	+						5
2. Elective course	+						5
Seminar 1		+					5
Seminar 2			+				5
Seminar 3				+			5
Public defense of the topic of the doctoral dissertation			+				5
Scientific research and professional work	+	+	+	+	+	+	
- preparation of a doctoral dissertation							70
- one published scientific paper (WoS)							30
- other activities *							≥40
Total							≥180

* Other activities are shown in Table 2.

Mandatory courses are taught in the first semester of study, they consist of 12 hours of teaching and are worth 5 ECTS credits each (a total of 10 ECTS). They enable the acquisition of generic competences and include content related to experiment planning and data processing, writing scientific papers and examining the role of ethics in science.

Elective courses are also taught in the first semester and provide the knowledge needed for the more specific field of research, and are based on 10 hours of teaching or 5 ECTS credits each (a total of 10 ECTS). When answering to a public call for enrolment and applying for admission to a doctoral study, the applicant must submit a written document clearly showing their chosen mentors have consented to their future

collaboration and have approved the applicants' proposed area of research. A potential mentor also assists the student in choosing elective courses. With the consent of the potential mentor, the student may choose an additional elective course (or a course from other relevant study programmes). The enrolment, if necessary, of an additional elective course is approved by the Postgraduate Doctoral Study Committee. Classes in specific subjects, depending on the number of enrolled students, can be conducted in the form of lectures or teacher-student consultation sessions.

In order to ensure a timely start of scientific research, it is necessary to submit a request for the appointment of a doctoral dissertation mentor during the first semester, in the manner defined by the Ordinance on postgraduate university (doctoral) studies at the Faculty of Chemical Technology in Split.

In order to obtain 180 ECTS credits, the doctoral student is expected to attend and actively participate in scientific and professional conferences, seminars and workshops, which are closely related to his/her field of scientific interest, he or she also needs to pursue further education at distinguished scientific research institutions and publish papers. Prior to defending their doctoral dissertation, a doctoral student must have had at least one paper published (or accepted for publication) in a journal indexed in the Web of Science or SCOPUS database, and that paper must cover the topic of the doctoral dissertation and serve as an integral part of it. It is vital that the paper in question is published after its author's enrolment in doctoral studies. Each research paper can serve as a qualification for just one doctoral student.

Therefore, when enrolling in the study, the doctoral student, in agreement with the potential mentor, enrolls in classes with a workload of at least 35 ECTS credits. He or she accumulates /acquires 25 ECTS credits by enrolling in two mandatory courses and three seminars while the remaining 10 ECTS credits are obtained by attending elective courses. Elective courses should be predominantly related to the subject matter and issues presented in the doctoral dissertation. Seminar 1 is held in the form of a review of a scientific paper submitted by a doctoral student and is related to the topic of their doctoral dissertation. Seminar 2 has the form of a scientific research paper?? in which preliminary findings have been processed. Seminar 3 also has the form of a scientific research paper in which part of the conducted research has been processed. Seminars are evaluated by a mentor. Following a positive seminar evaluation, at the end of the semester, all doctoral students take part in a short public presentation of their seminars, such as sectional lectures at a scientific conference. Public defense of the topic of the doctoral dissertation carries 8 ECTS credits, which brings us to a total of 40 ECTS. The remaining 140 ECTS credits are related to scientific research and the preparation of a doctoral dissertation (70 ECTS), the mandatory publication of one scientific paper which must take place prior to the defense of the doctoral dissertation (30 ECTS) and to other activities listed in Table 2, completed during the doctoral study (at least 40 ECTS).

Table 2. ECTS credits of other activities at the university postgraduate (doctoral) study in Chemistry and Chemical Engineering

No.	Other activities	ECTS credits
1.	Scientific paper in a journal cited in WoS or SCOPUS (published or accepted for publication)	30
2.	Peer-reviewed scientific paper published in other journals with a quality and impact categorization (published or accepted for publication)	10
3.	Peer-reviewed scientific paper published in other journals without a specified categorization (published or accepted for publication)	5
4.	Peer-reviewed scientific paper published in the Proceedings of the International Scientific Conference	5
5.	Peer-reviewed scientific paper published in the Proceedings of the Scientific Conference in the Republic of Croatia	4
6.	Active participation in an international scientific conference (oral presentation)	10
7.	Active participation in a domestic scientific conference (oral presentation)	5
8.	Passive participation in an international and a domestic scientific conference (poster)	2
9.	Professional paper published in a journal with known impact and quality categorization	10
10.	Summer school / workshop, according to the number of study hours	≤10
11.	Stay / education in a scientific research institution within the Republic of Croatia for the duration of at least one month (for each following month 5 ECTS)	5
12.	Stay / education in a scientific research institution outside the Republic of Croatia for the duration of at least one month (for each following month 10 ECTS)	10
13.	Attendance of scientific and professional lectures (a certificate of participation must be submitted)	1 (max 3)
14.	Other public lectures of the candidate	2

Note: if the doctoral student has received an award for activities labeled no. 6-8, the number of points for this activity is doubled. All activities must be performed during the doctoral study.

The doctoral student enrolls in the next year of study at the Student Administration Office provided that he/she has met the criteria for enrolment. If the doctoral student has not met the conditions for enrolment in the second year of study, he/she retakes or repeats the first year (without paying any tuition fees).

Conditions for enrolment in the second year of study are:

- an appointed mentor
- the doctoral student's annual progress report regarding the first year of study
- the mentor's annual report on the doctoral student's progress in the first year of study.

Conditions for enrolment in the third year of study are as follows:

- having successfully passed all enrolled courses and seminars
- a positive evaluation of the proposed doctoral dissertation topic
- the doctoral student's annual progress report in the second year of study
- the mentor's annual report on the doctoral student's progress in the second year of study.

Annual reports are submitted to the head of studies/head of the study programme. A student completes the doctoral study by defending his or her doctoral dissertation. The procedures for appointing a mentor, applying for a dissertation topic, evaluating and defending a doctoral dissertation are defined and described by the Ordinance on Postgraduate University (Doctoral) Study at the Faculty of Chemistry and Technology in Split.

2.7. Guiding and tutoring through the study system

The system for student guidance and counseling throughout the duration of study is defined and described in the Ordinance on Postgraduate University (Doctoral) Study at the Faculty of Chemistry and Technology in Split.

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

Instead of some of the elective courses offered in/by this study programme, students can enroll in courses from other, related studies held at the University of Split, at other universities in Croatia, as well as outside Croatia. A maximum of two courses can be enrolled, i.e., a maximum of 10 ECTS credits. The enrolment of these courses requires the written consent of the Postgraduate University Doctoral Study Committee as well as the approval of the head of the postgraduate study from which the courses in question were selected. If necessary, in order to expand their basic knowledge/their knowledge base, students can enroll in courses from undergraduate and graduate studies, but these courses are enrolled as extra curriculars (they do not bring any ECTS credits).

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

The study is usually conducted in Croatian, and if necessary, it can be conducted at least in part or fully in English.

2.10. Criteria and conditions for transferring the ECTS credits

As a rule, students who enroll in courses from other university postgraduate doctoral studies are awarded 5 ECTS credits for each course they enroll.

2.11. Completion of study

The study ends with the defense of a doctoral dissertation. The procedures for applying, evaluating and defending a doctoral dissertation are defined and described by the Ordinance on Postgraduate University (Doctoral) Study at the Faculty of Chemistry and Technology in Split.

With the approval of the Faculty Council, a student can defend his/her doctoral dissertation before the end of the 3rd year of study, provided that he/she has duly

fulfilled all obligations and obtained the prescribed number of ECTS credits defined by the organization and structure of the study programme.

As a rule, the study has the duration of three years/lasts for three years, but a student can be additionally granted student rights for another three years, without enrolling in the academic year (a total of 6 years for full-time students or a total of 8 years for part-time students). If there are justified and well documented reasons, the Faculty Council may, exceptionally, upon request, extend the duration of all student rights for another academic year. Should the student not achieve a doctorate degree after that deadline, he or she loses the right to further education in this study programme.

The duration of the study is defined by the Ordinance on Postgraduate University (Doctoral) Study at the Faculty of Chemistry and Technology in Split.

<i>Final requirement for completion of study</i>	Final thesis <input type="checkbox"/> Final thesis <input type="checkbox"/> Doctoral dissertation <input checked="" type="checkbox"/>	Final exam <input type="checkbox"/> Diploma exam <input type="checkbox"/> Doctoral exam <input checked="" type="checkbox"/>
<i>Requirements for final/diploma thesis or final/diploma/exam</i>	In accordance with the Ordinance on Postgraduate University (Doctoral) Study at the Faculty of Chemistry and Technology in Split, the evaluation procedure of a doctoral thesis can be initiated by a doctoral candidate whose doctoral thesis topic has been accepted.	
<i>Procedure of evaluation of final/diploma exam and evaluation and defence of final/diploma thesis</i>	The procedure for the evaluation of a doctoral dissertation is regulated by the Ordinance on Postgraduate University (Doctoral) Study at the Faculty of Chemistry and Technology in Split.	

2.12. List of mandatory and elective courses

Course code	Course	Hours in semester	ECTS
MANDATORY			
DS01	Scientific work methodology and publication	12	5
DS02	Statistics and Chemometrics	12	5
ELECTIVE**			
Field: Chemistry			
DSI01	Ecologically friendly methods of organic synthesis	10	5
DSI02	Ionic liquids	10	5
DSI03	Chemical diversity and bioactivity of terpenes and norisoprenoids	10	5
DSI04	Coordination polymers	10	5
DSI05	Methods for preparation and separation of chiral compounds	10	5
DSI06	Flow Based micro Analytical Techniques: design and application	10	5

DSI07	Preparation and characterization of ion-selective electrodes	10	5
DSI08	Supramolecular Chemistry	10	5
DSI09	Influence of phenylboronic acid on efficiency of biological active compounds	10	5
	Field: Chemical Engineering**		
DSI10	Cement composites of desired properties	10	5
DSI11	Hybrid systems for wastewater treatment and bioenergy production	10	5
DSI12	Kinetic analysis of thermally activated processes in polymeric materials	10	5
DSI13	Corrosion management	10	5
DSI14	Modelling of the kinetic in heterogeneous systems	10	5
DSI15	Mixing optimization in solid-liquid systems	10	5
DSI16	Polymers and sustainable development	10	5
DSI17	Applied electrochemistry in material development	10	5
DSI18	Application of natural sorbents in environmental remediation	10	5
DSI19	Trends in development of polymer blends and composites	10	5
	Other		
DSI20	Progress at the postgraduate level through scientific research and publication	10	5

Year of study: 1 st I. semester						
Code	Course	Hours in semester				ECTS
		L	S	E	MW/IW*	
DS01	Scientific work methodology and publication	12				5
DS02	Statistics and Chemometrics	12				5
	Elective course 1	10				5
	Elective course 2	10				5
	Scientific-research work (SRW)				+	
TOTAL						20

*MW/IW-mentor work with student/independent work of a doctoral student

Year of study: 1 st II.semester						
Code	Course	Hours in semester				ECTS
		L	S	E	MW/IW*	
DSS01	Seminar 1				+	5
	Scientific-research work (SRW)				+	

Year of study: 2 nd III.semester						
Code	Course	Hours in semester				ECTS
		L	S	E	MW/IW*	
DSS02	Seminar 2				+	5
	Scientific-research work (SRW)				+	

Year of study: 2 nd IV.semester						
Code	Course	Hours in semester				ECTS
		L	S	E	MW/IW*	
DSS03	Seminar 3				+	5
	Scientific-research work (SRW)				+	

Year of study: 3 rd V.semester						
Code	Course	Hours in semester				ECTS
		L	S	E	MW/IW*	
	Scientific-research work (SRW)				+	

Year of study: 3 rd VI.semester						
Code	Course	Hours in semester				ECTS
		L	S	E	MW/IW*	
	Scientific-research work (SRW)				+	
	Doctoral thesis				+	70

Mandatory courses

NAME OF THE COURSE		SCIENTIFIC WORK METHODOLOGY AND PUBLICATION				
Code	DS01	Year of study	1			
Course teacher	PhD Igor Jerković, full professor PhD Branka Andričić, full professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			12			
Status of the course	Mandatory	Percentage of application of e-learning	-			
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none"> - acquiring knowledge about the methodology of scientific work and the importance of publishing the results of one's own scientific research - introduction to the methodology of literature search and research preparation - developing knowledge-based competencies for the preparation and implementation of research work and writing a scientific article - develop an awareness of ethics in scientific research and publishing 					
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)	<p>Students will be able to:</p> <ul style="list-style-type: none"> - prepare for scientific research and search for scientific papers - methodologically set up and conduct scientific research - associate literature and own data in appropriate parts of a scientific article and critically compare them - demonstrate the ability to write a review scientific article - choose the right approach in preparation for research, conducting scientific research and writing a scientific article - apply ethical principles in scientific research and in publishing papers 					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> - introduction to scientific research work, scientific method (problem definition, information gathering, hypothesis setting, hypothesis testing, conclusion, scientific theory) (1) - preparation for research (topic selection, information gathering, study of scientific papers) (1) - scientific research (beginning of own research, recording and organization of results, data analysis, presentation of results) (1) - writing a scientific article (order of writing, title, abstract, keywords, introduction, materials and methods, results, discussion, conclusions, acknowledgement, literature (citation systems), draft paper, final version of the paper, writing style, presentation of the paper, publishing of the paper) (3) - bibliometric aspects of scientific article evaluation (1,5) - general rules for planning and drafting a doctoral dissertation (0.5) - ethical principles in science (1) - falsification, plagiarism, inaccuracy, falsification of data (2) 					

	- rules of authorship (1)					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input checked="" type="checkbox"/> work with mentor <input checked="" type="checkbox"/> essay		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance	0.5	Research	2.0	Practical training	
	Experimental work		Report		(Other)	
	Essay	2.0	Seminar essay		(Other)	
	Tests		Oral exam	0.5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	In addition to assessing theoretical knowledge in the oral exam, students write a short essay in the form of a review article on a given topic by elaborating the scientific literature. The grade is formed at the oral exam, taking into account the review article (60% of the total grade) and knowledge of the course content (40% of the total grade).					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	S. Kendal, How to write a research paper, The e-book company, 1st edition, 2015.			0	yes	
	Etički kodeks u znanosti i visokom obrazovanju, Odbor za etiku u znanosti i visokom obrazovanju, 13/11./2006			0	yes	
Optional literature (at the time of submission of study programme proposal)	- selected research and professional papers - E. D. Kallestinova, How to Write Your First Research Paper, Yale J. Biol. Med. 84 (2011) 181-190.					
Quality assurance methods that ensure the acquisition of exit competences	Monitoring of quality and performance will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for Quality Control of Teaching; (3) Teacher level.					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		STATISTICS AND CHEMOMETRICS	
Code	DS02	Year of study	1.
Course teacher	PhD Ante Prkić, associate professor PhD Sanja Tipurić Spužević, assistant professor	Credits (ECTS)	5.0

Associate teachers		Type of instruction (number of hours)	L	S	E	F
			12			
Status of the course	Mandatory	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none"> - mastering the basic concepts of descriptive and inferential statistics - analysis of primary and secondary data by methods of descriptive and inferential statistics - application of statistical tests to sets of the experimental results - advanced chemometrics (calibration, analytical signal processing, optimization and experiment 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)	<ul style="list-style-type: none"> - recognize the type of variables and the level of their measurement in the analysis of the studied phenomenon - describe and interpret calculated statistical indicators and parameters (numerically, graphically and textually) - select the appropriate calibration method - express understanding of the issue of analytical signal processing - demonstrate managing of optimization and experimental design 					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> - introduction with descriptive statistical analysis and inferential statistics (2 hours) - T-, F-, χ^2 – test (2 hours) - ANOVA (2 hours) - calibration methods (2 hours) - processing of the analytical signal (2 hours) - optimization and design of an experiment (2 hours) 					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance		Research	2.0	Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	2.0	(Other)	
	Tests		Oral exam	1.0	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Written and oral exam.					
Required literature (available in the	Title			Number of copies in the library	Availability via other media	

library and via other media)	1. N. Elezović, Diskretna vjerojatnost, Element, Zagreb, 2007.	6	
	2. N. Elezović, Slučajne varijable, Element, Zagreb, 2009.	6	
	3. I. Šošić, Primijenjena statistika, Školska knjiga, Zagreb, 2004.	1	
Optional literature (at the time of submission of study programme proposal)			
Quality assurance methods that ensure the acquisition of exit competences	Monitoring of quality and performance will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for Quality Control of Teaching; (3) Teacher level.		
Other (as the proposer wishes to add)			

Elective courses

NAME OF THE COURSE		APPLICATION OF NATURAL SORBENTS IN ENVIRONMENTAL REMEDIATION				
Code	DSI18	Year of study	1.			
Course teacher	PhD Ivona Nuić, assistant professor	Credits (ECTS)	5.0			
Associate teachers	-	Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none">- Consideration and acquisition of advanced knowledge about sorption processes in remediation of the environment- Possibilities of applying various environmentally friendly low-cost sorbents in environmental remediation- Performance and application of sorption as environmentally and economically acceptable method in remediation of the environment polluted with various harmful substances, especially heavy metals- Protection of soil and water from pollution from anthropogenic sources					
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)	<p>It is expected to:</p> <ul style="list-style-type: none">- independently research and discuss scientific literature in the field of sorption and remediation of the polluted environment with various harmful substances, especially heavy metals- write and present a seminar essay on a given topic- classify different natural materials as sorbents and evaluate possibilities of their application in remediation of heavy metals polluted environment- propose and apply the optimal solution of remediation without causing secondary pollution					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- Sorption process in soil and water remediation- Environmental pollution from various anthropogenic sources- Assessment of the impact of pollution on soil, water and living beings- Selection of natural environmentally friendly materials as low-cost sorbents for the removal of heavy metals- Sorption performance and selection of appropriate process parameters- Sorbent capacity and efficiency- Binding mechanisms- Desorption- Secondary pollution					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input checked="" type="checkbox"/> independent assignments <input checked="" type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			
Student responsibilities						

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)	<ul style="list-style-type: none">- describe (explain) the mechanism of decomposition of materials and structures- define the types of modification of the properties of metallic materials- select, plan and carry out modification procedures in order to obtain materials of appropriate properties- link the analysis of experimental data with the structure and properties of materials and application conditions					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- Advanced electrochemical kinetics, and transport mechanisms in liquids and solids.- Modification of the properties of metallic materials in order to expand the possibilities of their use (alloying, mechanical, thermal, and electrochemical treatment).- Electrochemical surface modification procedures: formation and properties of natural and anodic oxide films and inorganic and organic coatings.- Influence of material structure and surface modification on kinetics and mechanism of surface reactions.- Application of electrochemical principles in the development of materials for various applications: biocompatible materials for the manufacture of medical and dental implants (Ti, Ti alloys and various types of steel); shape-memory alloys for use in the automotive, electrical, astronomy and robotics industries (Cu-based alloys); technically important construction materials for use in the automotive, aerospace and food industries (various types of steel, recycled Al, Al alloys).- Common laboratory practice for sample preparation and use of electrochemical equipment.- Design of experiments, optimization of electrochemical cell, and selection of electrodes.- Analysis of experimental data obtained by DC and AC electrochemical techniques and the relationship with the structure and properties of materials and application conditions.					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance	1.0	Research	2.0	Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	2.0	(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students are evaluated based on the quality of seminar work and research.					

Required literature (available in the library and via other media)	Title	Number of copies in the library	Availability via other media
	Recent scientific articles and book chapters		
Optional literature (at the time of submission of study programme proposal)			
Quality assurance methods that ensure the acquisition of exit competences	Quality and performance monitoring will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for quality control of teaching; (3) Teacher level.		
Other (as the proposer wishes to add)			

NAME OF THE COURSE		CEMENT COMPOSITES OF DESIRED PROPERTIES				
Code	DSI10	Year of study	1.			
Course teacher	PhD Dražan Jozić, full professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	Acquiring knowledge in the field of development, production and application of cement and cement composite materials.					
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 passing the exam, the student will understand: - high temperature reactions that take place in the production process of clinker production -use of mineral additives such as microsilica, fly ash, granulated slag, calcined clay, metakaolin etc.. - use of additives in the preparation of cement composites (eg plasticizers, superplasticizers, aerants, etc.) - Interactions between cement composites and the environment such as carbon dioxide, chloride and sulphate with respect to the durability and sustainability. -Apply methods and techniques for characterization of cement composite materials					
Course content broken down in detail by weekly class schedule (syllabus)	Trends in the production of cement and cement composites. Early hydration and solidification of cement composites. Development of new materials and obtaining cement composites with targeted properties by introducing additives into the reaction system of cement and water. Hydration and solidification of cement composites in the presence of additives that affect hydration processes. Hydration					

	and solidification of cement composites with additives that affect workability. Admixtures with pozzolanic activity and cement composites. Development of microstructure and corrosion stability of cement composite binder. Influence of additives on the hydration mechanism. Optimal amount of additives to achieve the target properties of hardened cement composite. Preparation of cement composites which possess a high strength and waterproof and their stability and corrosion resistance.					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance		Research	2.5	Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	2.5	(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam						
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Cement Chemistry, Harry F.W. Taylor, Second Edition, 2004			2		
Optional literature (at the time of submission of study programme proposal)	Recent scientific papers					
Quality assurance methods that ensure the acquisition of exit competences	Quality assurance will be performed at three levels: (1) University Level; (2) Faculty Level by Quality Control Committee; (3) Lecturer's Level.					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		CHEMICAL DIVERSITY AND BIOACTIVITY OF TERPENES AND NORISOPRENOIDS				
Code	DSI03	Year of study	1			
Course teacher	PhD Igor Jerković, full professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning	-			
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none">- acquisition of advanced knowledge on chemical diversity and bioactivity of terpenes and norisoprenoids from various natural sources (from land and sea)- introduction to specific chemical structures, structure-bioactivity relationship and examples of chemical biomarkers of natural origin and chemotypes- development of knowledge-based competencies necessary for scientific research in the field of natural organic compounds					
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)	<p>Students will be able to:</p> <ul style="list-style-type: none">- describe advanced concepts in the field of chemical diversity and bioactivity of terpenes and norisoprenoids- illustrate the chemical structures of terpenes and norisoprenoids from various natural sources (from land and sea); identify chemical biomarkers of natural origin- demonstrate the ability to prepare a scientific essay in the field of selected natural organic compounds using scientific literature- select advanced methods of isolation and organic analysis of terpenes and norisoprenoids using modern preparative, chromatographic and spectroscopic methods- identify targeted bioactivities of selected compounds; consider the structure-bioactivity relationship- choose the right chemical approach in scientific research in the field of natural organic compounds					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- terpenes as secondary metabolites of terrestrial and / or marine organisms (regular and irregular, selected examples of semiterpenes, monoterpenes, sesquiterpenes, diterpenes, triterpenes and carotenoids) (2 hours)- norisoprenoids as secondary metabolites (selected examples of C₉-, C₁₀-, C₁₃-, C₁₄- and C₁₅-norisoprenoids) (1 hour)- examples of terpenes and norisoprenoids as specific and non-specific chemical biomarkers of natural origin for determining the authenticity and traceability of different products (food, cosmetic or pharmaceutical) from individual natural sources; examples of chemotypes in chemotaxonomy (1 hour)- isolation methods of terpenes and norisoprenoids isolation (2 hours)- chromatographic and spectroscopic techniques in organic analysis of terpenes and norisoprenoids (liquid and gas chromatography with different detectors) (2 hours)					

	- selected examples of terpenes and norisoprenoids bioactivity (role in organisms, antioxidant activity, antimicrobial activity, antitumor activity, etc.); structure-bioactivity relationship (2 hours)					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input checked="" type="checkbox"/> work with mentor <input checked="" type="checkbox"/> essay		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance	0.5	Research	1.0	Practical training	
	Experimental work		Report		(Other)	
	Essay	2.5	Seminar essay		(Other)	
	Tests		Oral exam	1.0	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	In addition to assessing theoretical knowledge in the oral exam, students write an essay on a given topic in the subject area evaluating the scientific literature. The grade is formed at the oral exam taking into account the grade of the essay (50% of the total grade) and the grade of knowledge of the course content (50% of the total grade).					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Handbook of Essential Oils: Science, Technology, and Applications, 2nd edition, K. Husnu Can Baser, G. Buchbauer (Eds.), CRC Press, Boca Raton, 2016.			1	yes	
	D. Cox-Georgian, N. Ramadoss, C. Dona, C. Basu, Therapeutic and Medicinal Uses of Terpenes. In: Medicinal Plants, N. Joshee, S. Dhekney, P. Parajuli (Eds), Cham, Springer, Berlin, 2019.			0	yes	
	selected research papers			0	yes	
Optional literature (at the time of submission of study programme proposal)						
Quality assurance methods that ensure the acquisition of exit competences	Monitoring of quality and performance will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for Quality Control of Teaching; (3) Teacher level.					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		COORDINATION POLYMERS				
Code	DSI04	Year of study	1st			
Course teacher	PhD Boris-Marko Kukovec, assistant professor	Credits (ECTS)	5.0			
Associate teachers	-	Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning	-			
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none"> - to become familiar with the basic concepts of preparation, characterization and application of coordination polymers - to become familiar with the single crystal X-ray structural analysis as the basic method in the study of coordination polymers - to become familiar with the porosity of coordination polymers and their sorption/desorption ability of gases and organic solvents - to become familiar with the single-crystal-to-single-crystal transformation of coordination polymers 					
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)	<ul style="list-style-type: none"> - to describe and explain the crystal structures of coordination polymers - to use characterization methods on a particular sample - to select topics of interest, based on the literature search - to propose hypotheses and to present and discuss the results and conclusions 					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> - Coordination polymers (CP) – definition, classification, dimensionality. Comparison with metal-organic frameworks (MOF). Types of metal ions (metal ions of <i>d</i>-, <i>f</i>- and <i>p</i>-block) and ligands in coordination polymers. - Preparation of coordination polymers – crystallization from solution at atmospheric pressure, hydrothermal (solvothermal) synthesis, mechanochemical synthesis. - Characterization of coordination polymers – diffraction (SCXRD, PXRD), spectroscopic (IR, Raman, UV/Vis) and thermal (TGA, DTA, DSC) methods. Analysis and interpretation of the selected crystal structures of coordination polymers. - Properties and application of coordination polymers – magnetic, luminescent, mechanical, optical and other properties. - Porosity of coordination polymers – sorption/desorption of gases and organic solvents. - Single-crystal-to-single-crystal phase transformation of coordination polymers. 					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			
Student responsibilities						

Screening student work (<i>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</i>)	Class attendance	1.0	Research	2.0	Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	2.0	(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	The students independently search the literature, select the papersw of interest and present them in front of other students and a course teacher, followed by a discussion of presented hypotheses, results and conclusions.					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Recent scientific articles and book chapters					
Optional literature (at the time of submission of study programme proposal)	-A. Winter, U. S. Schubert, Synthesis and Characterization of Metallo-Supramolecular Polymers. <i>Chem. Soc. Rev.</i> 45 (2016) 5311–5357. -G. Mehlana, S. A. Bourne, G. Ramon, L. Öhrström, Concomitant Metal Organic Frameworks of Cobalt(II) and 3-(4-Pyridyl)benzoate: Optimized Synthetic Conditions of Solvatochromic and Thermochromic Systems. <i>Cryst. Growth Des.</i> 13 (2013) 633–644. -T. Tahier, C. L. Oliver, <i>In Situ</i> Variable-Temperature Single Crystal X-Ray Diffraction Studies of the Single-Crystal-to-Single-Crystal Dehydration and Rehydration of a Mixed-Ligand 2D Zinc Metal–Organic Framework Using Trimesate and 4,4'-Bipyridine-N,N'-Dioxide as Ligands. <i>CrystEngComm.</i> 17 (2015) 8946–8956. -M. Pisačić, I. Kodrin, N. Matijaković, N. Chatterjee, C. L. Oliver, B.-M. Kukovec, M. Đaković, Reversible Temperature-Stimulated Single-Crystal-to-Single-Crystal Conformational Polymorph Transformation in Cadmium(II) Coordination Trimer with a Water Vapor Sorption/Desorption Potential. <i>Cryst. Growth Des.</i> 20 (2020) 401–413. -G. Chakraborty, I.-H. Park, R. Medishetty, J. J. Vittal, Two-Dimensional Metal–Organic Framework Materials: Synthesis, Structures, Properties and Applications. <i>Chem. Rev.</i> 121 (2021) 3751–3891.					
Quality assurance methods that ensure the acquisition of exit competences	Quality assurance and performance will be performed at three levels: (1) a University level; (2) a Faculty level, via the Committee for quality assurance of the teaching; (3) a teacher level.					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		CORROSION MANAGEMENT	
Code	DSI14	Year of study	1
Course teacher	PhD Ivana Smoljko, associate professor PhD Ladislav Vrsalović, full professor	Credits (ECTS)	5.0

	PhD Senka Gudić, full professor					
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	Gain knowledge about the procedures used to prevent corrosion, repair damage, or replace structurally defective elements during the lifetime of metal constructions (maintenance, inspection, repair, and removal).					
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)	<ul style="list-style-type: none"> - describe (explain) the process by which materials and buildings deteriorate - computer design (modeling) of the corrosion process - choose the proper corrosion monitoring system design - suggest corrosion protection measures that are both practical and affordable 					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> - Corrosion's scientific, financial, and social ramifications. - Decomposition mechanisms of metallic materials and structures. - Deterministic and probabilistic approach to corrosion assessment; computer modeling of corrosion; application of scientific methods in the analysis of corrosion damage. - Standards for the management of corrosion. - Determining the degree of structural safety from the perspective of corrosion; corrosion monitoring techniques in various corrosion systems; design of the monitoring system; interpretation of the monitoring data. - The most efficient and affordable corrosion protection; defining the best corrosion protection practices based on technological, constructional, and financial needs, with examples from real-world situations. - Analysis and prediction of structural life in construction. 					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (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	2.0	Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	2.0	(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student	Students are evaluated based on the quality of seminar work and research.					

NAME OF THE COURSE		ECOLOGICALLY FRIENDLY METHODS OF ORGANIC SYNTHESIS					
Code	DSI01	Year of study	1				
Course teacher	PhD Davor Margetić, scientific advisor	Credits (ECTS)	5.0				
Associate teachers		Type of instruction (number of hours)	L	S	E	F	
			10				
Status of the course	Elective	Percentage of application of e-learning					
COURSE DESCRIPTION							
Course objectives	<ul style="list-style-type: none">- acquiring advanced knowledge about advanced, more environmentally friendly methods of organic synthesis- introduction to specific instrumental techniques for the synthesis of organic compounds- development of basic competencies necessary for scientific research in the field of organic chemistry, primarily the synthesis of compounds						
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)	<p>Students will be able to:</p> <ul style="list-style-type: none">- describe terms important for environmentally friendly synthesis of organic compounds- describe advanced methods important for the synthesis of organic compounds- choose the optimal environmentally friendly method of organic synthesis- describe and choose advanced methods of spectroscopic characterization of organic products						
Course content broken down in detail by weekly	<ul style="list-style-type: none">- Mechanochemical synthesis (2 hours)- Synthesis under high pressure (1 hour)- Microwave organic synthesis (1 hour)- Application of catalysts (1 hour)						

class schedule (syllabus)	- Multicomponent reactions (1 hour) - Photochemical reactions (1 hour) - Environmentally friendly solvents (1 hour) - Separation of reaction mixture and isolation of products (1 hour) - NMR spectroscopic characterization of the products (1 hour)					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input checked="" type="checkbox"/> work with mentor <input checked="" type="checkbox"/> essay (other)		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance	0.5	Research	1.0	Practical training	
	Experimental work		Report		(Other)	
	Essay	2.0	Seminar essay		(Other)	
	Tests		Oral exam	1.5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	In addition to assement of theoretical knowledge in the oral exam, students write an essay on a given topic in the subject area, processing the scientific literature. The grade is formed at the oral exam taking into account the grade of the essay (50% of the total grade) and the grade of knowledge of the material (50% of the total grade).					
Required literature (available in the library and via other media)	Title				Number of copies in the library	Availability via other media
	Recent review scientific papers					
Optional literature (at the time of submission of study programme proposal)						
Quality assurance methods that ensure the acquisition of exit competences	Quality and performance monitoring will be performed at three levels: (1) university; (2) faculty, with the help of the Commission for quality control of teaching; (3) teacher level.					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		FLOW BASED MICRO ANALYTICAL TECHNIQUES: DESIGN AND APPLICATION	
Code	DSI06	Year of study	1.
Course teacher	PhD Lea Kukoč Modun, associate professor PhD Franko Burčul, assistant professor	Credits (ECTS)	5.0

Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	- Introduction to theoretical principles and the use of flow systems in the development of microanalytical methods in response to the requirements of green chemistry and understanding their advantages and limitations in analytical application. - Training of candidates for the assessment of the application of flow systems in real systems: monitoring of industrial processes (process analysis), monitoring of the situation in the environment and biological systems. -Acquisition of competencies for the design of flow systems and the development of new analytical methods using the same.					
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)	- Correctly interpret the acquired theoretical knowledge related to selected flow analysis techniques and principles of operation of flow systems. - Explain the connection between basic knowledge of analytical chemistry and its application in the development of flow analysis methods. - Design a flow system and develop a method of flow analysis according to the target analyte and the nature of the given sample. - Integrate the acquired knowledge and apply it in problem-solving and decision-making in analytical practice and the development of microanalytical systems.					
Course content broken down in detail by weekly class schedule (syllabus)	1. Introduction, basic principles, microfluidics 2. Continuous flow analysis 3. Programmable flow analysis 4. Sequential injection chromatography 5. Miniaturization of chromatographic systems					
Format of instruction	<div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work </div> <div> <input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other) </div> </div>					
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance		Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	1.5	(Other)	
	Tests		Oral exam	0.7	(Other)	
	Written exam	2.8	Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students are graded based on the quality of the seminar paper and the written and oral exams.					

	Title	Number of copies in the library	Availability via other media
Required literature (available in the library and via other media)	Nj. Radić i L. Kukoč-Modun, Uvod u analitičku kemiju, Školska knjiga, Zagreb, 2016.	40	
	Nj. Radić and L. Kukoc-Modun, Kinetic Methods of Analysis with Potentiometric and Spectrophotometric Detectors - Our Laboratory Experiences, In: I. S. Krull, Analytical Chemistry, Intech, Rijeka, 2012.		web
Optional literature (at the time of submission of study programme proposal)	Flow Injection Analysis of Food Additives, C. Ruiz-Capillas, L. M. L. Nollet (Eds.), Taylor & Francis Ltd., London, 2019. Review papers		
Quality assurance methods that ensure the acquisition of exit competences	Quality and performance monitoring will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for quality control of teaching; (3) Teacher level.		
Other (as the proposer wishes to add)			

NAME OF THE COURSE		HYBRID SYSTEMS FOR WASTEWATER TREATMENT AND BIOENERGY PRODUCTION				
Code	DSI11	Year of study	1			
Course teacher	PhD Nediljka Vukojević Medvidović, full professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	Today, wastewaters are extremely neglected as a potentially affordable and sustainable source of water, energy, nutrients and other reusable materials such as bio-sludge. In order to use wastewater in accordance with the guidelines of the circular economy, the concept of "zero discharge" and compliance with legislation, this course emphasizes the development and application of hybrid engineering systems that achieve more efficient wastewater treatment and bioenergy production that can be use in the treatment process.					
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)	<ul style="list-style-type: none">- define the concept of hybrid engineering systems in wastewater treatment and their role in achieving the goals of the circular economy- classify hybrid systems for wastewater treatment and bioenergy production- give examples of hybrid systems in application and research- explain the advantages of hybrid systems					

	- describe the limitations of hybrid systems - explain the role of the intensification process in wastewater treatment					
Course content broken down in detail by weekly class schedule (syllabus)	1. Definition and significance of hybrid systems for wastewater treatment and bioenergy production 2. Physico-biological hybrid system 3. Physico-chemical hybrid system 4. Chemical-biological hybrid system 5. Physico-chemical-biological hybrid system 6. Advantages of a hybrid system over individual treatment systems 7. Limitations of hybrid systems 8. Future trends in research and application of hybrid systems 9. The role of the intensification process in wastewater treatment 10. Case study - Analysis of examples of hybrid engineering systems in wastewater treatment and bioenergy production					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input checked="" type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance	2.0	Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests		Oral exam	2.0	(Other)	
	Written exam	1.0	Project		(Other)	
Grading and evaluating student work in class and at the final exam	Written and oral exam.					
Required literature (available in the library and via other media)	Title				Number of copies in the library	Availability via other media
	Integrated and Hybrid Proces Technology for Water and Wastewater Treatment, A. W. Mohammad and W. L. Ang (Eds.), Elsevier Inc., Amsterdam, 2021.					pdf
Optional literature (at the time of submission of study programme proposal)	P. F. Tee, M. O. Abdullah, I. A. W Tan, N. K. A. Rashid, M. A. M. Amin, C. Nolasco-Hipolito, K. Bujang, Review on hybrid energy systems for wastewater treatment and bioenergy production, Renewable and Sustainable Energy Reviews 54 (2016) 235-246.					
	I.E. Zelić, V. Gilja, I. Grčić, V. Tomašić, Intenzifikacija fotokatalitičkih procesa za obradu voda i otpadnih voda, Kem. Ind. 70 (2021) 275-292.					
	Recent scientific papers					

Quality assurance methods that ensure the acquisition of exit competences	Quality and performance monitoring will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for quality control of teaching; (3) Teacher level.
Other (as the proposer wishes to add)	

NAME OF THE COURSE		INFLUENCE OF PHENYLBORONIC ACID ON EFFICIENCY OF BIOLOGICAL ACTIVE COMPOUNDS				
Code	DSI09	Year of study	1.			
Course teacher	PhD Mladen Miloš, full professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none">- biochemical understanding of the biological role of phenylboronic acid- characterization of the interaction of phenylboronic acid with sialic acids on the cell surface- evaluation of methods for the synthesis of conjugates of phenylboronic acid and biologically active substances- evaluation of the influence of phenylboronic acid on the activity of biologically active substances					
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)	<ul style="list-style-type: none">- describe the structure of phenylboronic acid and its interactions with biological membranes- explain the influence of phenylboronic acid on cellular signaling pathways- specify the methods of synthesis of conjugates of phenylboronic acid and biologically active substances- explain the influence of phenylboronic acid on the effectiveness of biologically active organic acids					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- Structural structure of the surface of biological membranes (sialic acid). Intercellular communication molecules. Primary message carriers. Specific action of neuromediators and hormones. Secondary message transmitters. Cyclic adenosine monophosphate. Inositol and diacylglycerols. Ca2 + ions.- Principles of cellular signaling.- Acceptors of primary and secondary message transmitters. Proteins that react with Ca2 + ions. Membrane proteins carrying Ca2 + ions. Cytoplasmic proteins, troponin C, parvalbumin, calmodulin, calciquestrin.- Oncogenic and malignant tumors. Strategy for the treatment of malignant diseases.- Structural structure of phenylboronic acid and its interaction with sialic acids on the cell membrane surface. - Interactions of phenylboronic acid and sialic acids.					

	- Methods of synthesis of conjugates of phenylboronic acid and biologically active substances. - Investigation of cytotoxic and antiproliferative activities of created conjugates. - Investigation of the impact on viral activity. - Investigation of the influence on the enzymatic activity of selected enzymes.					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input checked="" type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities						
Screening student work <i>(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)</i>	Class attendance		Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	2.5	(Other)	
	Tests		Oral exam	2.5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students are graded based on the quality of the seminar paper and the oral exam.					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Recent scientific papers					
Optional literature (at the time of submission of study programme proposal)						
Quality assurance methods that ensure the acquisition of exit competences	Quality and performance monitoring will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for quality control of teaching; (3) Teacher level.					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		IONIC LIQUIDS				
Code	DSI02	Year of study	1.			
Course teacher	PhD Renato Tomaš, associate professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			

Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none"> - Emphasize the great importance of ionic liquids and get acquainted with their application in science and technology. - Explain the basics of the synthesis of some ionic liquids (for example, the synthesis of 1-methylimidazolium acetate in the laboratory). - Learn to apply some physicochemical methods in research of molecular interactions in the ionic liquid – solvent system. - Investigate recent literature about ionic liquids. - Know-how to apply what has been learned in the performans of independent scientific research. 					
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)	Upon successful completion of this course, students will be able to: <ul style="list-style-type: none"> - Show the importance of ionic liquids in the science and in the technology. - Prepare some ionic liquids in laboratory. - Specify the thermophysical properties of ionic liquids and describe various molecular interactions. - Describe the so-called task specific ionic liquids. - Indicate the applications of ionic liquids. - Write scientific papers on the topic of ionic liquid. 					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> - Introduction: Importance of ionic liquids, Historical overview of ionic liquids and their future. - Synthesis, purification and characterization of ionic liquid. - Task specific ionic liquids. - Heavy elements in ionic liquids. - Thermophysical properties of ionic liquids. - Review of recent studies of molecular interactions in the system: ionic liquid – solvent. - Luminescence spectroscopy in ionic liquids. - An overview of some significant applications of ionic liquids: ionic liquids as „green“ solvents, CO₂ capture and removal of heavy metals with ionic liquids, ionic liquids in biomass processing, ionic liquids in supercapacitors and fuel cells. 					
Format of instruction	<div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work </div> <div> <input type="checkbox"/> independent assignments <input checked="" type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input checked="" type="checkbox"/> work with mentor <input type="checkbox"/> (other) </div> </div>					
Student responsibilities						
Screening student work (name the proportion of ECTS credits for each activity so that the total number of	Class attendance	0.5	Research	1.5	Practical training	
	Experimental work	0.5	Report		(Other)	
	Essay		Seminar essay	1	(Other)	

<i>ECTS credits is equal to the ECTS value of the course)</i>	Tests		Oral exam	1.5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam						
Required literature (available in the library and via other media)	Title				Number of copies in the library	Availability via other media
	Physicochemical properties of ionic liquid mixtures, S. Zhang, Q. Zhao, X. Lu, Y. Song, X. Wang (Editors), Springer, Berlin, 2016.				1	
	Ionic liquids in analytical chemistry: New insights and recent developments, 1 st Edition, S. Carda-Broch, M. J. Ruiz-Angel (Editors), Elsevier, Amsterdam, 2021.					Web
	Recent scientific papers with subject: ionic liquids.					Web
	Ionic Liquids: Topics in Current Chemistry, 290, Volume Editor B. Kirchner, Springer-Verlag Berlin Heidelberg 2009.				1	
Optional literature (at the time of submission of study programme proposal)	Gurung B. B., Roy M. N., Solute-Solvent Interactions in Industrially Important Solvent Media, VDM Verlag Dr. Müller, Saarbrücken, 2010. (in the library)					
Quality assurance methods that ensure the acquisition of exit competences						
Other (as the proposer wishes to add)						

NAME OF THE COURSE		KINETIC ANALYSIS OF THERMALLY ACTIVATED PROCESSES IN POLYMERIC MATERIALS					
Code	DSI12	Year of study	1.				
Course teacher	PhD Matko Erceg, full professor PhD Nataša Stipanelov Vrandečić, full professor	Credits (ECTS)	5.0				
Associate teachers		Type of instruction (number of hours)	L	S	E	F	
			10				
Status of the course	Elective	Percentage of application of e-learning					
COURSE DESCRIPTION							
Course objectives	- acquiring knowledge about the mechanism and kinetics of thermally activated processes in polymeric materials						

	- mathematical description of thermally activated processes in order to predict the behavior of polymeric materials during processing, use and recovery.					
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)	<ul style="list-style-type: none">- obtaining quality TGA and DSC data for kinetic analysis- perform kinetic analysis of the investigated process based on TGA and DSC data- assess the complexity of the process from a kinetic point of view- simulate thermal processes based on calculated kinetic parameters					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- thermal and thermooxidative decomposition of polymeric materials- experimental data for kinetic analysis (TGA, DSC, data quality)- one-stage and multi-stage processes (parallel, consecutive, reversible reactions)- model-free isoconversion methods (principle, differential, integral)- determination of kinetic parameters in model-free approach (compensation effect, IKP method, graphical methods) and in model-fitting approach (linear and nonlinear regression); statistical evaluation of kinetic analysis results- kinetic predictions; computer programs for performing kinetic analysis: Netzsch Thermokinetic Professional.					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input checked="" type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance	0.5	Research		Practical training	2.0
	Experimental work		Report		(Other)	
	Essay		Seminar essay	0.5	(Other)	
	Tests		Oral exam	2.0	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	In addition to assessing theoretical knowledge in the oral exam, students will perform kinetic analysis on a given set of experimental data. The grade is formed at the oral exam taking into account the quality of the performed kinetic analysis (50% of the total grade) and the grade of theoretical knowledge of the material (50% of the total grade).					
Required literature (available in the library and via other media)	Title				Number of copies in the library	Availability via other media
	S. Vyazovkin, A. K. Burnham, J .M. Criado, L. A. Pérez-Maqueda, C. Popescu, N. Sbirrazzuoli, CTAC Kinetics Committee recommendations for performing kinetic computations on thermal analysis data, Thermochimica Acta 520 (2011) 1-19					pdf
	S. Vyazovkin, A. K. Burnham, L. Favergeon, N. Koga, E. Moukina, L. A. Pérez-Maqueda, N.					pdf

	Sbirrazzuoli, ICTAC Kinetics Committee recommendations for analysis of multi-step kinetics, <i>Thermochimica Acta</i> 689 (2020) 178597.		
	M. Erceg, I. Krešić, N. Stipanelov Vrandečić, M. Jakić, Different approaches to the kinetic analysis of thermal degradation of poly(ethylene oxide), <i>Journal of thermal analysis and calorimetry</i> , 131 (2018) 325-334.		pdf
Optional literature (at the time of submission of study programme proposal)	S. Vyazovkin, <i>Isoconversional Kinetics of Thermally Stimulated Processes</i> , Springer, Berlin, 2015.		
Quality assurance methods that ensure the acquisition of exit competences	Quality assurance will be performed at three levels: (1) University Level, (2) Faculty Level by Quality Control Committee, (3) Lecturer's Level		
Other (as the proposer wishes to add)			

NAME OF THE COURSE		METHODS FOR PREPARATION AND SEPARATION OF CHIRAL COMPOUNDS				
Code	DSI05	Year of study	1.			
Course teacher	PhD Marin Roje, associate professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none">- acquisition of knowledge on asymmetric synthesis of selected organic compounds with special emphasis to the methodology of asymmetric synthesis of biologically active molecules- introduction to methods for determining the absolute configuration of organic compounds- introduction to enantioselective chromatography methods- introduction to the methods of stereoselective catalysis and biocatalysis- acquisition of knowledge of methodologies for preparation of selected chiral molecules					
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)	<ul style="list-style-type: none">- to explain the application of methods in asymmetric synthesis- to apply the acquired knowledge on given examples in the synthesis of selected molecules- to explain the mechanisms of enantioselective synthesis methods- to apply the acquired knowledge on examples of chiral molecules separation					

Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> - importance of chirality and chiral compounds - review of the methods for preparation of chiral compounds - influence of stereochemistry in the synthesis of natural compounds/biologically active molecules - review and application of chiroptical methods for determining the absolute configuration of chiral molecules - examples of solving complex stereochemical problems on selected natural compounds - enantioselective chromatography; principles and methods - enantioselective crystallization - stereoselective catalysis and biocatalysis 					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance		Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	2.5	(Other)	
	Tests		Oral exam	2.5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students are graded based on the quality of seminar paper and oral exam.					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	V. Šunjić, V. Petrović Peroković, Organic Chemistry from Retrosynthesis to Asymmetric Synthesis, Springer International Publishing 2016.					
	L. G. Wade, J. W. Simek, Organic chemistry, Pearson, 2016.					
Optional literature (at the time of submission of study programme proposal)	Recent scientific papers					
Quality assurance methods that ensure the acquisition of exit competences	Monitoring of quality and performance will be done at three levels: (1) University level; (2) Faculty level, with the help of the Commission for Quality Control of Teaching; (3) Teacher level					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		MIXING OPTIMIZATION IN SOLID-LIQUID SYSTEMS				
Code	DSI15	Year of study	1.			
Course teacher	PhD Marija Čosić, associate professor	Credits (ECTS)	5.0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	<ul style="list-style-type: none">- Introduction to the principles of design and / or selection of batch stirred reactor considering the characteristics of convective fluid flow and power consumption.- Gain the ability to assess whether the application of a particular stirred reactor is suitable for the unit operation of specific purpose which involves agitated solid-liquid system.- Acquire the ability to perceive the influence of hydrodynamic conditions in the stirred reactor on the mechanisms of transport phenomena in solid-liquid systems.- Propose mixing conditions that will increase the rate of the controlling step in the mass and / or energy transfer.					
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)	<ul style="list-style-type: none">- Ability to explain the justification of the choice of a particular stirred batch reactor considering the fluid flow pattern, power consumption and the objectives of particular unit operation which involves solid-liquid systems.- Understanding the micro- and macro-scale turbulence. Ability to explain which suspension state would be desirable in solid-liquid systems considering mass and energy transfer rate and power consumption. Knowledge of the influence of mixing parameters on the critical impeller speed.- Application of mass transfer principles (diffusion and convection mass transfer) to describe transport phenomena between solid and liquid phase in a stirred tank.- Ability to explain how to influence the mass and energy transfer rate in particular operation in heterogeneous system by choosing appropriate mixing conditions, considering the laws for transport phenomena, power consumption, hydrodynamic conditions in the system and desired operation outcomes.					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- Key parameters for design of the batch stirred reactor (system geometry, impeller types and fluid flow pattern in a single and dual impeller system).- Computational fluid dynamic, simulation of fluid flow pattern and turbulent energy dissipation contour in a batch stirred reactor (CFD).- Power consumption in stirred system.- Mixing in solid-liquid systems (Hydrodynamic aspect of particles suspension; micro and macro scale of turbulence).- Experimental techniques and theoretical correlations for determining the states of suspension and distribution of solid particles in the reactor.- Mixing systems scale-up.- Mechanisms of mass transfer in agitated solid-liquid systems.- An analysis of the transport phenomena occurring in solid-liquid systems and possibility of the intensification of the controlling step in mass and /or energy transfer.- Analysis of hydrodynamic conditions and transport phenomena in the particular solid-liquid agitated systems: crystallization, leaching and adsorption.					

Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> independent assignments <input checked="" type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities					
Screening student work (<i>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</i>)	Class attendance	0.5	Research	0.5	Practical training
	Experimental work		Report		(Other)
	Essay		Seminar essay	3.0	(Other)
	Tests		Oral exam	1.0	(Other)
	Written exam		Project		(Other)
Grading and evaluating student work in class and at the final exam	Student's grade will be based on a seminar paper quality and success in the oral exam.				
Required literature (available in the library and via other media)	Title		Number of copies in the library	Availability via other media	
	E. L. Paul, V. A. Atiemo-Obeng, S. Kresta, Handbook of Industrial Mixing, John Wiley and Sons, Inc., Hoboken, New Jersey, 2019.				
	C. J. Geankoplis, A. Hersel, D. Lepek, Transport Processes and Separation Process Principles, 5. ed., Pearson, Boston, 2018.				
	R. H. Perry and D. W. Green, Perry's Chemical Engineer's Handbook, 9th Ed., McGraw-Hill, New York, 2019.				
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)					

NAME OF THE COURSE		MODELLING OF THE KINETIC IN HETEROGENEOUS SYSTEMS			
Code	DSI14	Year of study	1.		
Course teacher	PhD Sandra Svilović, full professor	Credits (ECTS)	5.0		
Associate teachers		Type of instruction (number of hours)	L	S	E
			10		

Status of the course	Elective	Percentage of application of e-learning	
COURSE DESCRIPTION			
Course objectives	Gaining knowledge of modelling in chemical engineering with emphasis on modelling kinetics in heterogeneous systems		
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)	- to explain the concepts related to modelling in chemical engineering - to choose method (algorithm) for parameter estimation - to apply method (algorithm) for parameter estimation - to choose "best" model for process		
Course content broken down in detail by weekly class schedule (syllabus)	- Modelling in chemical engineering - Methods for parameter estimation - Examples of kinetic models and methodology (ion exchange/sorption/adsorption, supercritical CO ₂ extraction....)		
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work	<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)	
Student responsibilities			
Screening student work (<i>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</i>)	Class attendance	1.0	Research
	Experimental work		Report
	Essay		Seminar essay
	Tests		Oral exam
	Written exam		Project
Grading and evaluating student work in class and at the final exam	Student's grade will be based on a seminar paper quality and success in the oral exam.		
Required literature (available in the library and via other media)	Title	Number of copies in the library	Availability via other media
	Z. Gomzi, Ž. Kurtanjek, Modeliranje u kemijskom inženjerstvu, HDKI/FKIT, Zagreb, 2019.	5	
Optional literature (at the time of submission of study programme proposal)			
Quality assurance methods that ensure the	Quality assurance will be performed at three levels: (1) University Level;		

acquisition of exit competences	(2) Faculty Level by Quality Control Committee; (3) Lecturer's Level.
Other (as the proposer wishes to add)	

NAME OF THE COURSE		POLYMERS AND SUSTAINABLE DEVELOPMENT					
Code	DSI16	Year of study	1.				
Course teacher	PhD Branka Andričić, full professor PhD Matko Erceg, full professor	Credits (ECTS)	5.0				
Associate teachers		Type of instruction (number of hours)	L	S	E	F	
			10				
Status of the course	Elective	Percentage of application of e-learning					
COURSE DESCRIPTION							
Course objectives	To critically evaluate the impact of plastic on the environment in order to promote sustainable development.						
Course enrolment requirements and entry competences required for the course							
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<ul style="list-style-type: none"> - evaluate the advantages and disadvantages of using certain groups of polymers - recognize the impact of microplastics on the environment - critically evaluate the application of biodegradable polymers - propose sustainable ways of waste management of certain polymer materials - evaluate the life cycle of polymers (LCA) by applying the appropriate computer program 						
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> - the origin of microplastics in the environment - impact of microplastics on the ecosystem - biodegradable polymers: significance, use, development, perspective, impact on the environment - computer programs for LCA analysis - LCA analysis on selected examples 						
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input checked="" type="checkbox"/> work with mentor <input type="checkbox"/> (other)				
Student responsibilities	Write a review paper on a given topic.						
Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is	Class attendance	0.5	Research	2.0	Practical training	0.5	
	Experimental work		Report		(Other)		
	Essay		Seminar essay	1.0	(Other)		
	Tests		Oral exam	1.0	(Other)		

<i>equal to the ECTS value of the course)</i>	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students are evaluated based on the quality of research-based seminar essay and success in the oral exam.					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Recent scientific articles and book chapters.					
Optional literature (at the time of submission of study programme proposal)						
Quality assurance methods that ensure the acquisition of exit competences	Quality and performance monitoring will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for quality control of teaching; (3) Teacher level.					
Other (as the proposer wishes to add)						

NAME OF THE COURSE		PREPARATION AND CHARACTERIZATION OF ION-SELECTIVE ELECTRODES					
Code	DSI07	Year of study	1.				
Course teacher	PhD Ante Prkić, associate professor PhD Josipa Giljanović, full professor PhD Ivana Mitar, assistant professor	Credits (ECTS)	5.0				
Associate teachers		Type of instruction (number of hours)	L	S	E	F	
			10				
Status of the course	Elective	Percentage of application of e-learning					
COURSE DESCRIPTION							
Course objectives	- gain advanced knowledge on the preparation of ion-selective electrodes (membrane and printed ones) - introduction to specific instrumental techniques for characterization of materials used for the preparation of ion-selective electrodes - development of basic skills necessary for scientific research in the field of electroanalytical methods and techniques, primarily potentiometry and preparation and characterization of ion-selective electrodes						
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: - describe advanced concepts important for the preparation of ion-selective electrodes - describe advanced terms important for the characterization of ion-selective electrode materials - demonstrate the ability to create a scientific essay, or the creation of a virtual sensor in the field of electroanalytical methods and techniques using the scientific literature - describe and select advanced methods of material synthesis for the preparation of ion-selective electrodes using modern preparative techniques (synthesis of salts used for ion-selective electrodes and microwave synthesis of nanoparticles), spectroscopic methods (UV/Vis, FTIR, AAS), microscopic (SEM) and diffraction techniques					
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- application of the ion-selective electrodes as sensors (2 hours)- modification of the ion-selective electrodes with nanomaterials (1 hour)- application of microwaves for the preparation of nanomaterials (metal particles, metal oxides/hydroxides or oxyhydroxides) (1 hour)- characterization of physicochemical and morphological properties of nanomaterials (2 hours)- manufacture of the ion-selective electrodes (pressing and printing) (2 hours)- characterization of the prepared ion-selective electrodes (2 hours)					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input checked="" type="checkbox"/> work with mentor <input checked="" type="checkbox"/> essay		
Student responsibilities						
Screening student work (<i>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</i>)	Class attendance	0.5	Research	2.0	Practical training	
	Experimental work		Report		(Other)	
	Essay	1.5	Seminar essay		(Other)	
	Tests		Oral exam	1.0	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	In addition to assessing theoretical knowledge in the oral exam, students write an essay on a given theme in the subject area by processing the scientific literature. The grade is formed on the oral exam by taking the grade of the essay (50% of the total grade) and the grade of knowledge of the material (50% of the total grade).					
Required literature (available in the library and via other media)	Title				Number of copies in the library	Availability via other media
	Recently published scientific reviews					
Optional literature (at the time of submission of study programme proposal)						
Quality assurance methods that ensure the	Monitoring of quality and performance will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for Quality Control of Teaching; (3) Teacher level.					

acquisition of exit competences	
Other (as the proposer wishes to add)	

NAME OF THE COURSE		PROGRESS AT THE POSTGRADUATE LEVEL THROUGH SCIENTIFIC RESEARCH AND PUBLICATION					
Code	DSI20	Year of study	1.				
Course teacher	PhD Andrei Rotaru, associate professor	Credits (ECTS)	5.0				
Associate teachers		Type of instruction (number of hours)	L	S	E	F	
			10				
Status of the course		Percentage of application of e-learning					
COURSE DESCRIPTION							
Course objectives	Provide a comprehensive understanding of progress possibilities in postgraduate educational programs through scientific research, from conceiving scientific articles and publishing strategies, to disseminating results at scientific events, developing collaborations for new research projects, and rising opportunities by involvement in the organization of conferences. The outcomes shall create the premises and forecast a potential fruitful academic or research career.						
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)	1. Conceiving accurately scientific articles and clear strategy in submitting them to appropriate journals. 2. Familiarizing with the scientometric parameters, ranking and reputation of scientific journals and publishing houses. 3. Applying and simulating the editorial and reviewing activities for articles at scientific journals. 4. Disseminating opportunities for the results of research at scientific events and enlarging the scientific collaborations as main outcomes. 5. Selecting appropriate research grant competition and writing model for research grant. 6. Understanding the benefits of organizing conferences and the establishing networks for personal scientific and institutional development. 7. Develop critical thinking skills in the evaluation of the progress possibilities at the postgraduate level and further in the academic and research career through scientific premises, tools and latest advancements.						
Course content broken down in detail by weekly class schedule (syllabus)	1st lecturing hour. Transforming the results of scientific research into deliverables ensuring the overall progress: articles, patents and monographies on case studies. 2nd lecturing hour. Scientific databases at international level. The leading publishing houses of the most important scientific publications.						

	<p><i>3rd lecturing hour.</i> Scientific journals and scientometric factors. Ranking journals and constructing reputation: previous developments, the current situation and perspectives.</p> <p><i>4th lecturing hour.</i> The art and craft of writing scientific articles and improving the articles throughout the reviewing process. Searching for the appropriate journals for publishing articles.</p> <p><i>5th lecturing hour.</i> The art and craft of writing and presenting scientific works. Choosing the appropriate scientific event (conference, workshop, seminar, round table, etc.) where to disseminate the results of scientific research and develop collaborations.</p> <p><i>6th lecturing hour.</i> The evaluation of research via scientometry. The personal scientometric indicators for planning an academic or research career.</p> <p><i>7th lecturing hour.</i> The development of a scientific journal: editorial strategies for enhancement, organizing its life and marketing ideas for an efficient promotion.</p> <p><i>8th lecturing hour.</i> The editorial concepts within a journal and expectations for the peer-reviewing process. How to act as Guest Editor and organize a special issue.</p> <p><i>9th lecturing hour.</i> Organizing scientific conferences. Part I – Driving forces for the actual organization: the idea, the call, the conference center, welcoming the participants, the conference itself, the social events within the conference and the handling of all related costs. The benefits and drawbacks of the scientific conferences.</p> <p><i>10th lecturing hour.</i> Organizing scientific conferences. Part II – Behind the conference: establishing the committees, registration fees, venues, topics, plenary & invited lectures, program, publications, the call, the registration of participants & works, editing the book of abstracts and organizing the related special issue(s) at journals. The aftermath of the scientific conferences.</p>					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities	Attending lectures and seminars in the amount of 80% of the total hourly rate. Individual and group assignments (projects) and their presentation. Active participation during lessons.					
Screening student work (<i>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</i>)	Class attendance		Research	No	Practical training	No
	Experimental work	No	Report	1.0	(Other)	
	Essay	No	Seminar essay	No	(Other)	
	Tests	No	Oral exam	2.0	(Other)	
	Written exam	No	Project	2.0	(Other)	
Grading and evaluating student work in class and at the final exam	20 % for the Report 40 % for the Project 40 % for the Oral exam					
Required literature (available in the	Title				Number of copies in the library	Availability via other media

library and via other media)	P. Vinkler, The Evaluation of Research by Scientometric Indicators, 1st edition, Chandos Publishing, Cambridge, 2010.	1	Yes
	M. Skelton, M. Pais, Team Topologies, It Revolution Press, Portland, 2019.	1	Yes
Optional literature (at the time of submission of study programme proposal)	https://impactfactorforjournal.com/jcr-2021/ https://www.scopus.com/ http://www.elsevier.com/ https://www.springer.com/gp		
Quality assurance methods that ensure the acquisition of exit competences	The lecture will have as background various educational and scientific materials, both in printed and electronic versions. Occasionally, with the help of a videoprojector or videoscreen, some more dynamic aspects will be presented. The lecture will be interactive, the students being engaged into discussions and debates, including the employment of examples, case studies and experimental situations. Each student has to conceive during the lecture a short report on a topic within the course content topics and at the end of the lecture will be involved in a collective project. Finally, each student will undertake an oral examination.		
Other (as the proposer wishes to add)			

NAME OF THE COURSE		SUPRAMOLECULAR CHEMISTRY				
Code	DSI08	Year of study	1			
Course teacher	PhD Marina Tranfić Bakić, assistant professor	Credits (ECTS)	5.0			
Associate teachers	-	Type of instruction (number of hours)	L	S	E	F
			10			
Status of the course	Elective	Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	Within this course, students will gain knowledge about: - different supramolecular systems, - the fundamental principles on which they are based, - methods of their research, - their application.					
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: 1. know, understand, and be able to explain basic terminology, concepts, and theories in supramolecular chemistry, and recognize the most important non-covalent intermolecular interactions on which the creation and stability of supramolecular complexes are based 2. be acquainted with the most important classes of receptors for anions, cations, and neutral molecules, several types of molecular machines and devices, and methods of their synthesis					

	3. have insight into the analytical methods used in the analysis of supramolecular systems 4. understand several applications of supramolecular chemistry (sensors, catalysis, drug delivery systems, ...) 5. thanks to the newly acquired knowledge, they will be able to discuss and comment on the modern scientific literature in the field of supramolecular chemistry.					
Course content broken down in detail by weekly class schedule (syllabus)	1. introduction: noncovalent interactions between molecules and their thermodynamics, effect of the medium, cooperativity 2. molecular recognition, host-guest chemistry, and molecular design 3. self-assembly/self-organization 4. molecular machines, functional molecular assemblies, and mechanically interlocked molecules 5. supramolecular chirality 6. supramolecular reactivity and catalysis (enzymes, biomimetics, structural cooperativity) 7. analytical methods in supramolecular chemistry, kinetic versus thermodynamic stability 8. supramolecular aspects of the chemistry of natural systems (DNA, peptides) and complex supramolecular systems (supramolecular polymers, self-replicating molecules, foldamers, metal-organic frameworks, dynamic combinatorial chemistry...)					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities	Attendance at lectures and seminars with active participation, preparation of essays and seminar presentations, and access to the oral exam.					
Screening student work (<i>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</i>)	Class attendance		Research		Practical training	
	Experimental work		Report		(Other)	
	Essay	2.0	Seminar essay	2.0	(Other)	
	Tests		Oral exam	1.0	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students will write an essay on one of the offered topics in the field of supramolecular chemistry using the scientific literature. Students will present their essay in the form of a seminar to other students. After the lectures and the seminar, students can take the oral exam.					
Required literature (available in the library and via other media)	Title				Number of copies in the library	Availability via other media
	J. W. Steed, J. L. Atwood, Supramolecular Chemistry, 3 rd ed., Wiley, Hoboken, 2022.					from the teacher
	H.-J. Schneider, A. Yatsimirsky, Principles and methods in supramolecular chemistry, 2000; ISBN: 978-0-471-97253-2					from the teacher

Optional literature (at the time of submission of study programme proposal)	Scientific (review) papers
Quality assurance methods that ensure the acquisition of exit competences	Quality and performance monitoring will be performed at three levels: (1) University; (2) Faculty, with the help of the Commission for teaching quality control; (3) Teacher level.
Other (as the proposer wishes to add)	

NAME OF THE COURSE		TRENDS IN DEVELOPMENT OF POLYMER BLENDS AND COMPOSITES					
Code	DSI19	Year of study	1.				
Course teacher	PhD Sanja Perinović Jozić, associate professor PhD Miće Jakić, assistant professor	Credits (ECTS)	5.0				
Associate teachers		Type of instruction (number of hours)	L	S	E	F	
			10				
Status of the course	Elective	Percentage of application of e-learning					
COURSE DESCRIPTION							
Course objectives	Improving the knowledge about polymer blends and composites with an emphasis on the modification of the interfacial surface in these multicomponent systems with the aim of achieving specific material properties.						
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)	<ul style="list-style-type: none">- to recognize and describe the latest scientific and technological trends in development of polymer blends and composites- to use bibliographic sources as needed to support research on topics related to polymer blends and composites- to define the methodology in designing, characterization and evaluation of the properties of polymer blends and composites- to apply scientific criteria when planning and implementing research-development projects on any subject in the subject area.						
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none">- designing of immiscible polymer blends and composites in order to achieve a specific morphology and thus specific material properties- trends in modifying the interface of polymer blends and composites with the aim of increasing the adhesion, reducing interfacial tension and achieving a more stable dispersion of components in the investigated system- nanostructured polymer blends and composites prepared from biopolymers and synthetic polymers (biodegradable polymers, water soluble polymers), biofillers and nanofillers, depending on the topic of the doctoral dissertation.						
	<input checked="" type="checkbox"/> lectures		<input checked="" type="checkbox"/> independent assignments				

Format of instruction	<input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)		
Student responsibilities	Completing all the assigned subject tasks.				
Screening student work (<i>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</i>)	Class attendance	1.0	Research	3.0	Practical training
	Experimental work		Report		(Other)
	Essay		Seminar essay	1.0	(Other)
	Tests		Oral exam		(Other)
	Written exam		Project		(Other)
Grading and evaluating student work in class and at the final exam	Students are evaluated based on the quality of their research seminar paper.				
Required literature (available in the library and via other media)	Title		Number of copies in the library	Availability via other media	
	The literature required will be based on the recent scientific works in development of polymer blends and composites, depending on the scientific interests of the doctoral student (topic of the doctoral thesis).				
Optional literature (at the time of submission of study programme proposal)					
Quality assurance methods that ensure the acquisition of exit competences	Monitoring of quality and performance will be carried out at three levels: (1) University; (2) Faculty, through the Quality Assurance Committee for teaching; (3) Teacher level.				
Other (as the proposer wishes to add)					

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	Faculty of Chemistry and Technology
Location of building	Ruđera Boškovića 35, Split
Year of completion	2015
Total square area in m ²	29 500

3.2. List of teachers and associate teachers

Course	Teachers and associate teachers
MANDATORY	
Scientific work methodology and publication	PhD Igor Jerković, full professor PhD Branka Andričić, full professor
Statistics and Chemometrics	PhD Ante Prkić, associate professor PhD Sanja Tipurić Spužević, assistant professor
ELECTIVE	
Application of natural sorbents in environmental remediation	PhD Ivona Nuić, assistant professor
Applied electrochemistry in material development	PhD Senka Gudić, full professor PhD Ladislav Vrsalović, full professor PhD Ivana Smoljko, associate professor
Cement composites of desired properties	PhD Dražan Jozić, full professor
Chemical diversity and bioactivity of terpenes and norisoprenoids	PhD Igor Jerković, full professor
Coordination polymers	PhD Boris-Marko Kukovec, assistant professor
Corrosion management	PhD Ivana Smoljko, associate professor PhD Ladislav Vrsalović, full professor PhD Senka Gudić, full professor
Ecologically friendly methods of organic synthesis	PhD Davor Margetić, scientific advisor
Flow Based micro Analytical Techniques: design and application	PhD Lea Kukoč Modun, associate professor PhD Franko Burčul, assistant professor
Hybrid systems for wastewater treatment and bioenergy production	PhD Nediljka Vukojević Medvidović, full professor
Influence of phenylboronic acid on efficiency of biological active compounds	PhD Mladen Miloš, full professor
Ionic liquids	PhD Renato Tomaš, associate professor
Kinetic analysis of thermally activated processes in polymeric materials	PhD Matko Erceg, full professor

	PhD Nataša Stipanelov Vrandečić, full professor
Methods for preparation and separation of chiral compounds	PhD Marin Roje, associate professor
Mixing optimization in solid-liquid systems	PhD Marija Ćosić, associate professor
Modelling of the kinetic in heterogeneous systems	PhD Sandra Svilović, full professor
Polymers and sustainable development	PhD Branka Andričić, full professor PhD Matko Erceg, full professor
Preparation and characterization of ion-selective electrodes	PhD Ante Prkić, associate professor PhD Josipa Giljanović, full professor PhD Ivana Mitar, assistant professor
Progress at the postgraduate level through scientific research and publication	PhD Andrei Rotaru, associate professor
Supramolecular Chemistry	PhD Marina Tranfić Bakić, assistant professor
Trends in development of polymer blends and composites	PhD Sanja Perinović Jozić, associate professor PhD Miće Jakić, assistant professor

3.3. Curriculum vitae of the course teacher

First and last name and title of teacher	PhD Branka Andričić, full professor
The course he/she teaches in the proposed study programme	Scientific work methodology and publication Polymers and sustainable development
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 329 469
E-mail address	branka@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/andricic-branka
Year of birth	1965
Scientist ID	188492
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, 24/5/2016
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	19/2/1991
Name of position (professor, researcher, associate teacher, etc.)	Full professor with tenure
Field of research	Polymeric materials
Function	Coordinator of doctoral study in the area of technical sciences, field chemical engineering (2017-)

INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology
Place	Split
Date	19/12/2001
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)
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)	<ul style="list-style-type: none"> - Polymeric materials (undergraduate university study Chemical technology) - Polymers and the environment (undergraduate university study Chemical technology) - Polymer blends and composites (graduate university study Chemical technology) - Naturally occurring polymeric materials (graduate university study Chemical technology) - Polymer blends (doctoral university study Chemical engineering in materials development and environmental protection)
Authorship of university/faculty textbooks in the field of the course	- Prirodni polimerni materijali (Naturally occurring polymeric materials), Split, 2008
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	<ol style="list-style-type: none"> 1. S. Perinović Jozić, D. Jozić, J. Jakić, B. Andričić, Preparation and characterization of PLA composites with modified magnesium hydroxide obtained from seawater, <i>J. Therm. Anal. Cal.</i> 142 (2020) 1877-1889. 2. N. Stipanelov Vrandečić, M. Erceg, B. Andričić, I. Blanco, F. A. Bottino, Characterization of poly(ethylene oxide) modified with different phenyl hepta isobutyl polyhedral oligomeric silsesquioxanes, <i>J. Therm. Anal. Cal.</i> 142 (2020) 1863-1875. 3. N. Stipanelov Vrandečić, M. Erceg, B. Andričić, P. Čerdić, Kinetička analiza izotermne razgradnje poli(etilen oksida) modificiranog fenil hepta izobutil poliedarskim oligomernim silseskvioksanima, <i>Kem. Ind.</i> 69 (5-6) (2020) 261-268. 4. S. Perinović Jozić, D. Jozić, M. Erceg, B. Andričić, S. Bernstorff, Nonisothermal crystallization of poly(L-lactide) in poly(L-lactide)/olive stone flour composites, <i>Thermochim. Acta</i> 683 (2020) 1-9. 5. M. Erceg, I. Krešić, M. Jakić, B. Andričić, Kinetic analysis of poly(ethylene oxide)/lithium montmorillonite nanocomposites, <i>J. Therm. Anal. Cal.</i> 127 (2017), 1; 789-797, doi:10.1007/s10973-016-5413-y.

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)	BIOCOMPACT-CE, project financed by RERA (Agency for development of Split-Dalmatia county 2019-2020)
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	
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	PhD Franko Burčul, assistant professor
The course he/she teaches in the proposed study programme	Flow Based micro Analytical Techniques: design and application
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 472
E-mail address	franko.burcul@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/obavijesti-2/obavijesti-poslijediplomski-studij/172-djelatnici/cv/209-cv81?showall=1
Year of birth	1983.
Scientist ID	308276
Research or art rank, and date of last rank appointment	Research associate, 8/4/2015
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, 17/3/2017
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/4/2017
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Research and teaching in analytical chemistry and chemistry of natural compounds
Function	

INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemical Engineering and Technology
Place	Zagreb
Date	30/9/2014
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)	French (3)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Italian (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. Analytical chemistry I (integrated undergraduate and graduate university study of Pharmacy); 2. Analytical chemistry II (integrated undergraduate and graduate university study of Pharmacy); 3. Analysis of real samples (undergraduate university study of Chemistry); 4. Instrumental methods of analysis (undergraduate university study of Chemistry and graduate university study of Chemical Technology); 5. Instrumental methods of analysis in Pharmacy (integrated undergraduate and graduate university study of Pharmacy).
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. M. N. Mužek, F. Burčul , D. Omanović, A. Đulović, S. Svilović, I. Blažević, Rocket (<i>Eruca vesicaria</i> (L.) Cav.) vs. Copper: The Dose Makes the Poison?, <i>Molecules</i> , 27 (2022), 711 (1-10.) doi.org/10.3390/molecules27030711. 2. A. Đulović, F. Burčul , V. Čikeš Čulić, M. Ruščić, P. Brzović, S. Montaut, P. Rollin, I. Blažević, <i>Lepidium graminifolium</i> L.: Glucosinolate Profile and Antiproliferative Potential of Volatile Isolates, <i>Molecules</i> , 26 (2021), 17; 5183, 11 doi:10.3390/molecules26175183. 3. M. N. Mužek, D. Omanović, A. Đulović, F. Burčul , S. Svilović, I. Blažević, The Garden Candytuft (<i>Iberis umbellata</i> L.): At the Crossroad of Copper Accumulation and Glucosinolates, <i>Processes</i> , 8 (2020), 9; 1116, 10 doi:10.3390/pr8091116. 4. I. Blažević, A. Đulović, F. Burčul , M. Popović, S. Montaut, T. Bilušić, I. Vrca, J. Markić, I. Ljubenkov, M. Ruščić, P. Rollin, Stability and bioaccessibility during ex vivo digestion of glucoraphenin and glucoraphasatin from <i>Matthiola incana</i> (L.)

	R. Br., <i>Journal of food composition and analysis</i> , 90 (2020), 103483, 7 doi:10.1016/j.jfca.2020.103483. 5. M. Popović, A. Maravić, V Čikeš Čulić, A. Đulović, F. Burčul , I. Blažević, Biological Effects of Glucosinolate Degradation Products from Horseradish: A Horse that Wins the Race, <i>Biomolecules</i> , 10 (2020), 2; 343, 15 doi:10.3390/biom10020343.
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)	- IP-2016-06-1316: Plants as a source of bioactive sulphur compounds and their ability to hyperaccumulate metals (BioSMe), research project funded by Croatian Science Foundation (2017- 2021)
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	Course titled „Development and improvement of pedagogical competences of university teachers“ organized by University of Split. Acquired competences and new knowledge in the field of education in higher education. Social and emotional competence and motivation; role of multiprocess questions; strategy of learning; and educational technologies.
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	PhD Marija Ćosić, associate professor
The course he/she teaches in the proposed study programme	Mixing optimization in solid-liquid systems
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 453
E-mail address	marija.cosic@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/cosic-marija
Year of birth	1977
Scientist ID	267161
Research or art rank, and date of last rank appointment	Senior research associate, 5/4/2018
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, 14/6/2018
Area and field of election into research or art rank	Technical Science, Chemical Engineering

INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/9/2004
Name of position (professor, researcher, associate teacher, etc.)	Associate professor
Field of research	Mechanical, thermal and separation processes
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	24/6/2010
INFORMATION ON ADDITIONAL TRAINING	
Year	2010
Place	Zagreb
Institution	Faculty of Chemical Engineering and Technology
Field of training	Mechanical, thermal and separation processes in chemical engineering
Year	2005
Place	Rome, Italy
Institution	L'Universita degli Studi di Roma "La Sapienza"; Dipartimento di Ingegneria Chimica, dei Materiali delle Materie Prime e Metallurgia.
Field of training	Mechanical, thermal and separation processes in chemical engineering
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 study programme)	<ul style="list-style-type: none"> - Mechanical and thermal operations (graduate university study of Chemical Technology) - Unit operations (undergraduate university study of Chemical Technology, undergraduate university study of Food Technology) - Unit operations in environmental engineering (undergraduate university study of Chemical Technology) - Mass and energy balances (undergraduate university study of Chemical Technology)
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. A. Čelan, I. Milanović, M. Čosić , N. Kuzmanić, Impact of ultrasound amplitude on crystallization of borax decahydrate in stirred batch crystallizer, <i>Chemical engineering & technology</i> , 44 (2021), 11.

	<p>2. A. Čelan, M. Čosić, Ž. Penga, N. Kuzmanić, Connection of hydrodynamics and nucleation kinetics in dual impeller crystallizer, <i>Chemical engineering & technology</i>, 44 (2021), 6.</p> <p>3. M. Čosić, A. Pažin, A. Čelan, N. Kuzmanić, Influence of cooling rate on crystallization of borax in stirred batch crystallizer, <i>Chemical Engineering Transactions</i>, 74 (2019), 451-456.</p> <p>4. M. Čosić, A. Čelan, I. Pehnec, N. Kuzmanić, Investigation of crystal growth of borax in single and dual impeller batch cooling crystallizer, <i>Chemical engineering communications</i>, 207 (2019), 6; 847-860.</p> <p>5. A. Čelan, M. Čosić, I. Pehnec, N. Kuzmanić, Nenad, Influence of impeller diameter on crystal growth kinetics of borax in mixed dual impeller batch cooling crystallizer, <i>Chemical engineering & technology</i>, 42 (2019), 4; 788-796.</p>
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)	-IP-11-2013-8959: Influence of processing conditions on the kinetics of heterogeneous systems in agitated batch reactors (HETMIX), scientific project of the Croatian Science Foundation, collaborator, (2014-2018)
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	Professional development: Development and improvement of pedagogical competencies of university teachers, Faculty of Philosophy in Split, University of Split, 8 - 9 December 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)	

First and last name and title of teacher	PhD Matko Erceg, full professor
The course he/she teaches in the proposed study programme	Kinetic analysis of thermally activated processes in polymeric materials Polymers and sustainable development
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 457
E-mail address	merceg@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/erceg-matko

Year of birth	1976
Scientist ID	243566
Research or art rank, and date of last rank appointment	Scientific advisor, 26/9/2013
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 21/12/2017
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/2/2001
Name of position (professor, researcher, associate teacher, etc.)	Full professor
Field of research	Polymer engineering
Function	Dean
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	17/5/2007
INFORMATION ON ADDITIONAL TRAINING	
Year	2007
Place	Lyon, Francuska
Institution	Institut de Recherches sur le Catalyse et l'Environnement de Lyon
Field of training	Thermal analysis methods in chemical engineering
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, (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)	<ul style="list-style-type: none"> - Polymer nanocomposites (postgraduate university doctoral study Chemical engineering in materials development and environmental protection) - Physics of polymers (postgraduate university doctoral study Chemical engineering in materials development and environmental protection) - Product Life Cycle Assessment (LCA) (graduate university study Chemical Technology, orientation: Environmental Protection) - Recycling of Plastics (graduate university study Chemical Technology, orientation: Environmental Protection)
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. I. Kremer, T. Tomić, Z. Katančić, M. Erceg , S. Papuga, J. Parlov Vuković, D.R. Schneider, Catalytic pyrolysis of mechanically non- recyclable waste plastics mixture: Kinetics and pyrolysis in laboratory-scale reactor, <i>Journal of environmental management</i> , 296 (2021), 113145, 11, doi:10.1016/j.jenvman.2021.113145

	<p>2. M. Erceg, P. Tutman, D. Bojanić Varezić, A. Bobanović, Karakterizacija mikroplastike u sedimentu plaže Prapratna, <i>Kemija u industriji</i>, 69 (2020), 5-6; 253-260, doi:10.15255/KUI.2019.057</p> <p>3. M. Erceg, I. Krešić, N. Stipanelov Vrandečić, M. Jakić, Different approaches to the kinetic analysis of thermal degradation of poly(ethylene oxide), <i>Journal of thermal analysis and calorimetry</i>, 131 (2018), 1; 325-334, doi:10.1007/s10973-017-6349-6</p> <p>4. M. Erceg, I. Krešić, M. Jakić, B. Andričić, Kinetic analysis of poly(ethylene oxide)/lithium montmorillonite nanocomposites, <i>Journal of thermal analysis and calorimetry</i>, 127 (2017), 1; 789-797, doi:10.1007/s10973-016-5413-y</p> <p>5. M. Jakić, N. Stipanelov Vrandečić, M. Erceg, The influence of poly(ethylene glycol) on thermal properties of poly(vinyl chloride)/poly(ethylene oxide) blends, <i>Journal of thermal analysis and calorimetry</i>, 127 (2017), 1; 663-674, doi:10.1007/s10973-016-5768-0</p>
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	<ul style="list-style-type: none"> - Award for Science, University of Split, 2021 - Outstanding Young Thermal Analysis and Calorimetry Researcher in Central and Eastern Europe, 2017

First and last name and title of teacher	PhD Josipa Giljanović, full professor
The course he/she teaches in the proposed study programme	Preparation and characterization of ion-selective electrodes
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 476
E-mail address	josipa@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/giljanovic-josipa
Year of birth	1959
Scientist ID	119831

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, 28/10/2019
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1984.
Name of position (professor, researcher, associate teacher, etc.)	Full professor
Field of research	Development and analytical application of potentiometric sensors, application in flow injection analysis and "batch" potentiometry, application of spectroscopic techniques for food products analysis, pharmaceuticals and quality assurance
Function	Head of Department for Analytical Chemistry
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	30/1/1997
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)	<ul style="list-style-type: none"> - Analytical Chemistry (undergraduate university study of Chemistry) - Physical methods of analysis (graduate university study of Chemistry) - Methods of separation and speciation (graduate university study of Chemistry)
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)	<p>1. A. Prkić, T. Vukušić, I. Mitar, J. Giljanović, V. Sokol, P. Bošković, M. Jakić, A. Sedlar, New sensor based on AgCl containing Iron Oxide or Zinc Oxide Nanoparticles for Chloride Determination. <i>International journal of electrochemical Science</i>, 14 (2019) 861 – 874, doi: 10.20964/2019.01.71.</p> <p>2. A. Prkić, I. Mitar, J. Giljanović, M. Nazlić, D. Kremer, I. Anđelić, N. Vuletić, V. Dunkić, Potentiometric Determination of Copper in Herbal Material and Hydrolats of Veronica Species (Family Plantaginaceae), <i>International journal of electrochemical Science</i>, 13 (2018) 11923, doi: 10.20964/2018.12.16.</p>

	3. A. Prkić, I. Mitar, J. Giljanović , V. Sokol, P. Bošković, I. Dolanc, T. Vukušić, Comparison of Potentiometric and ETAAS Determination of Copper and Iron in Herbal Samples, <i>International journal of electrochemical Science</i> , 13 (2018) 9551 – 9560, doi: 10.20964/2018.10.18.
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)	- Fostering Academia-Industry Collaboration in Food Safety and Quality (FOODQA), consortium leader: Jordan University of Science and Technology (JUST), Erasmus+ (2017- 2019) – workpackage 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	
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	PhD Senka Gudić, full professor
The course he/she teaches in the proposed study programme	Applied electrochemistry in material development Corrosion management
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 433
E-mail address	sgudic@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/gudic-senka
Year of birth	1965
Scientist ID	181062
Research or art rank, and date of last rank appointment	Scientific advisor, 28/2/2019
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 31/10/2019
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	2/11/1990

Name of position (professor, researcher, associate teacher, etc.)	Full professor with tenure
Field of research	Electrochemical and corrosion process at the metal / solution phase boundary.
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University in Split
Place	Split
Date	21/6/2000
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)
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)	<ul style="list-style-type: none"> - Electrochemical Engineering (postgraduate university study Chemical Engineering in Materials Development and Environmental Protection) - Corrosion inhibitors (postgraduate university study Chemical Engineering in Materials Development and Environmental Protection) - Electrochemical Engineering (graduate university study Chemical Technology) - Electrochemical methods and their application (graduate university study of chemical technology) - Corrosion inhibitors (graduate university study of Chemical Technology) - Direct energy conversion (graduate university study of Chemical Technology) - Electrochemistry (undergraduate university study of Chemical Technology) - Electrochemical Engineering (undergraduate professional study Materials protection and recycling)
Authorship of university/faculty textbooks in the field of the course	<ul style="list-style-type: none"> - S. Gudić, Electrochemical power sources, Faculty of Chemistry and Technology in Split, 2011. (peer-reviewed internal script) - S. Gudić, Metal corrosion inhibitors, Faculty of Chemistry and Technology in Split, 2006 (peer-reviewed internal script)
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	<ol style="list-style-type: none"> 1. S. Gudić, L. Vrsalović, D. Kvirgić, A. Nagode, Electrochemical behaviour of Ti and Ti-6Al-4V alloy In phosphate buffered saline solution, <i>Materials</i>, 14 (2021). 2. J. Krolo, S. Gudić, L. Vrsalović, B. Lela, Z. Dadić, Fatigue and corrosion behavior of solid state recycled aluminum alloy EN AW 6082, <i>Journal of materials engineering and performance</i>, 29 (2020) 4310-4321.

	<p>3. S. Gudić, D. Kvrđić, L. Vrsalović, M. Gojić, Comparison of the corrosion behavior of AISI 304, AISI 316L and duplex steel in chloride solution, <i>Material protection</i>, 59 (2018) 307-315.</p> <p>4. L. Vrsalović, I. Ivanić, S. Kožuh, S. Gudić, B. Kosec, M. Gojić, Effect of heat treatment on corrosion properties of CuAlNi shape memory alloy, <i>Transactions of nonferrous metals society of China</i>, 28 (2018) 1149-1156.</p> <p>5. S. Gudić, M. Zlatunić, L. Vrsalović, A. Radonić, Inhibition of aluminium alloy corrosion in chloride solution by caffeine isolated from black tea, <i>Food in health and disease</i>, 7 (2018) 6-11.</p>
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	<p>- IP-2020-02-8284: Recycling of aluminum alloys in solid and semi-solid state (Alurecss), research project of the Croatian Science Foundation (2021-2025)</p> <p>- IP-11-2013-8547: Research of natural compounds and aromas: chemical profiling and potential discovery (NaPro-Flav), research project of the Croatian Science Foundation (2014-2018)</p>
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	
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	PhD Miće Jakić, assistant professor
The course he/she teaches in the proposed study programme	Trends in development of polymer blends and composites
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 455
E-mail address	mice.jakic@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/jakic-mice
Year of birth	1981
Scientist ID	303245
Research or art rank, and date of last rank appointment	Research associate, 13/9/2016
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, 1/3/2018
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/3/2008
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Technical science; Polymer, Polymer blends and composites
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	Assistant professor
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	1/3/2018
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)	- Processing and Recycling of Polymers (undergraduate professional study Materials Protection and Recycling)
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. M. Jakić , M. N. Mužek, I. Lončar, Karakterizacija PEO/ES kompozita pripremljenih ekstruzijom. <i>Conference proceedings: 21th International Conference on Materials, Tribology and</i>

	<p><i>Recycling, MATRIB 2021.</i>, Vela Luka, Korčula, Hrvatska, 2021., 236-247.</p> <p>2. V. Ocelić Bulatović, M. Jakić, D. Kučić Grgić, Kinetic analysis of poly(ϵ- caprolactone)/poly(lactic acid) blends with low- cost natural thermoplastic starch, <i>Acta chimica Slovenica</i> 67 (2020), 651-665.</p> <p>3. M. Jakić, N. Stipanelov Vrandečić, M. Erceg, The influence of poly(ethylene glycol) on thermal properties of poly(vinyl chloride)/poly(ethylene oxide) blends, <i>Journal of thermal analysis and calorimetry</i> 127 (2017), 663-674.</p> <p>4. M. Erceg, I. Krešić, M. Jakić, B. Andričić, Kinetic analysis of poly(ethylene oxide)/lithium montmorillonite nanocomposites, <i>Journal of thermal analysis and calorimetry</i> 127 (2017), 789-797.</p>
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)	- UIP-2017-05-6282: Development of new membranes for ion-selective electrodes enriched with nanoparticles of metals and metal oxides (NANOISEM), research project of the Croatian Science Foundation (2018- 2023)
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	
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)	5

First and last name and title of teacher	PhD Igor Jerković, full professor
The course he/she teaches in the proposed study programme	Scientific work methodology and publication Chemical diversity and bioactivity of terpenes and norisoprenoids
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	+385 21 329 436
E-mail address	igor@ktf-split.hr

Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/jerkovic-igor
Year of birth	1975
Scientist ID	226253
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, 21/12/2017
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology in Split
Date of employment	1/3/1998
Name of position (professor, researcher, associate teacher, etc.)	Full professor with tenure
Field of research	Chemistry of natural organic compounds
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology in Split
Place	Split
Date	28/5/2004
INFORMATION ON ADDITIONAL TRAINING	
Year	Occasionally from 2009 (total of 3 months)
Place	Cagliari, Italy
Institution	Università degli studi di Cagliari, Facoltà di Biologia e Farmacia, Cagliari, Italia
Field of training	Chemistry of natural organic compounds
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)
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)	<ul style="list-style-type: none"> - Terpene biodiversity: aromas and fragrances (postgraduate university study of Chemistry of the Mediterranean Environment) - Organic Chemistry I (undergraduate university study of Chemistry) - Chemistry and technology of aromatic plants (graduate university study of Chemistry)
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)	<p>1. S. Radman, A.-M. Cikoš, I. Flanjak, S. Babić, L. Čižmek, D. Šubarić, R. Čož-Rakovac, S. Jokić, and I. Jerković, Less polar compounds and targeted antioxidant potential (in vitro and in vivo) of <i>Codium adhaerens</i> C. Agardh 1822, <i>Pharmaceuticals</i> 2021, 14, 944.</p> <p>2. I. Jerković, A.-M. Cikoš, S. Babić, L. Čižmek, K. Bojanić, K. Aladić, N. V. Ul'yanovskii, D. S. Kosyakov, A. T. Lebedev, R.</p>

	<p>Čož-Rakovac, P. Trebše, and S. Jokić, Bioprospecting of less-polar constituents from endemic brown macroalga <i>Fucus virsoides</i> J. Agardh from the Adriatic Sea and targeted antioxidant effects in vitro and in vivo (Zebrafish Model), <i>Marine Drugs</i> 2021, 19, 235.</p> <p>3. M. Banožić, K. Aladić, I. Jerković and S. Jokić, Volatile organic compounds of tobacco leaves vs. waste (scrap, dust and midrib): extraction and optimization, <i>Journal of Agricultural and Food Chemistry</i> 101 (2021) 1822-1832.</p> <p>4. P. M. Kuš and I. Jerković, Application of dehydration homogeneous liquid-liquid extraction (DHLLE) sample preparation method for honey volatiles fingerprinting, <i>Molecules</i> 2021, 26, 2277.</p> <p>5. L. Svečnjak, Z. Marijanović, P. Okińczyc, P. M. Kuš and I. Jerković, Mediterranean propolis from the Adriatic Sea islands as a source of natural antioxidants: comprehensive chemical biodiversity determined by GC-MS, FTIR-ATR, UHPLC-DAD-QqTOF-MS, DPPH and FRAP assay, <i>Antioxidants</i> 2020, 9, 337.</p>
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)	<ul style="list-style-type: none"> - KK.01.1.1.01.0002: Bioprospecting of the Adriatic Sea, Center of excellence for bioprospecting of the Adriatic Sea (2017.-) - IP-11-2013-8547: Research of Natural Products and Flavours: Chemical Fingerprinting and Unlocking the Potential, research project of Croatian Science Foundation (2014.-2018.)
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	<ul style="list-style-type: none"> - Award for Science of the University of Split for scientific contribution in the field of natural sciences, 2020. - Decoration of the Order of the Croatian Weaver for special merits for science and the promotion of science in the Republic of Croatia and the world, 2019. - Award for Science of the University of Split for scientific contribution in the field of natural sciences, 2018. - Award for scientific achievements "Ruđer Bošković", University of Split, 2013. - Award for special achievements in scientific and teaching work, Faculty of Chemistry and Technology in Split, 2011. - Award "Leopold (Lavoslav) Ružička" of the Croatian Chemical Society for Young Scientists for achieved notable results in the field of chemistry of natural compounds, Zagreb, 2006.
Results of student evaluation taken in the last five years for the course that is comparable to the course	The results of the student evaluation were performed at University level with the help of the Commission for Quality

described in the form (evaluation organizer, average grade, note on grading scale and course evaluated)	Control for the courses Organic Chemistry I and Chemistry and Technology of aromatic plants and were very positive.
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First and last name and title of teacher	PhD Dražan Jozić, full professor
The course he/she teaches in the proposed study programme	Cement composites of desired properties

GENERAL INFORMATION ON COURSE TEACHER

Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 471
E-mail address	jozicd@ktf-split.hr
Personal web page	https://www.ktf-split.hr/index.php/kontakt-3/kontakt-djelatnici/item/jozic-drazan
Year of birth	1974
Scientist ID	231234
Research or art rank, and date of last rank appointment	Scientific advisor, 26/12/2013
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 29/11/2018
Area and field of election into research or art rank	Technical Science, Chemical Engineering

INFORMATION ON CURRENT EMPLOYMENT

Institution where employed	Faculty of Chemistry and Technology
Date of employment	1/7/2003
Name of position (professor, researcher, associate teacher, etc.)	Full professor
Field of research	Chemical Engineering in Materials Development
Function	Vice Dean for Science work and International Collaboration

INFORMATION ON EDUCATION – Highest degree earned

Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	20/7/2007

INFORMATION ON ADDITIONAL TRAINING

Year	2003
Place	Monza, Italija
Institution	Perkin Elmer Centar
Field of training	Application and work on TG / DTG-DTA instrument
Year	2011
Place	Planneralm, Austrija
Institution	Institut für Physik, Montanauniversität Leoben, Austria
Field of training	Neutron and synchrotron radiation (SAXS and SANS methods)
Year	2010/2011
Place	Trst, Italija
Institution	Elettra-Sincrotrone Trieste S.C.p.A.
Field of training	Instrumental methods and techniques (SAXS, WAXS, GISAXS) with the application of high-energy synchrotron radiation in the development of nanostructured materials

Year	2014
Place	Bari, Italija
Institution	Institute of Crystallography-CNR of Bari
Field of training	Solving crystal structure from powder and single crystals by using SIR/EXPO program
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)	Cement composites with targeted properties (postgraduate university study of Chemical Engineering in Materials Development and Environmental Protection)
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)	<p>1. S. Juradin, I. Netinger Grubeša, S. Mrakovčić, D. Jozić, Impact of fibre incorporation and compaction method on properties of pervious concrete, <i>Materiales de Construcción</i>, 71 (2021), 342; e245, 11 doi:10.3989/mc.2021.</p> <p>2. S. Juradin, I. Boko, I. Netinger Grubeša, S. Mrakovčić, D. Jozić, S. Mrakovčić, Influence of different treatment and amount of Spanish broom and hemp fibres on the mechanical properties of reinforced cement mortars, <i>Construction and building materials</i>, 273 (2021), 121702, 14, doi:10.1016/j.conbuildmat.2020.121702.</p> <p>3. S. Juradin, I. Boko, I. Netinger Grubeša, D. Jozić, S. Mrakovčić, I. Vukojević, Properties of Spanish Broom Fiber Reinforced Concrete, <i>Solid State Phenomena</i>, 322 (2021), 72-77 doi:https://.org/10.4028/www.scientific.net/SSP.322.72.</p> <p>4. S. Juradin, L. Vranješ, K. Lidia, D. Jozić, I. Boko, Post-Fire Mechanical Properties of Concrete Reinforced with Spanish Broom Fibers, <i>Journal of Composites Science</i>, 5 (2021), 10; 265, 17 doi:10.3390/jcs5100265.</p> <p>5. S. Juradin, I. Boko, I. Netinger Grubeša, D. Jozić, S. Mrakovčić, Influence of harvesting time and maceration method of Spanish Broom (<i>Spartium junceum</i> L.) fibers on mechanical properties of reinforced cement mortar, <i>Construction and building materials</i>, 225 (2019), 243-255 doi:10.1016/j.conbuildmat.2019.07.207.</p>
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	
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	PhD Lea Kukoč Modun, associate professor
The course he/she teaches in the proposed study programme	Flow Based micro Analytical Techniques: design and application
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 463
E-mail address	kukoc@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/kukoc-modun-lea
Year of birth	1977
Scientist ID	250621
Research or art rank, and date of last rank appointment	Senior research associate, 15/3/2021
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, 17/12/2021
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	2/6/2002
Name of position (professor, researcher, associate teacher, etc.)	Associate professor
Field of research	Analytical chemistry
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemical Engineering and Technology
Place	Zagreb
Date	16/10/2009
INFORMATION ON ADDITIONAL TRAINING	
Year	2004
Place	Monza, Italy
Institution	Perkin Elmer
Field of training	Atomic absorption spectrometry
Year	2005

Place	Graz, Austria
Institution	Karl-Franzens Universitat
Field of training	Sensors
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)	Deutsch (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)	<ul style="list-style-type: none"> - Analytical chemistry I (undergraduate university study of Chemistry) - Analytical chemistry I (integrated undergraduate and graduate university study of Pharmacy) - Analytical chemistry II (undergraduate university study of Chemistry) - Analytical chemistry II (integrated undergraduate and graduate university study of Pharmacy) - Instrumental methods of analysis (undergraduate university study of Chemistry and graduate university study of Chemical Technology) - Instrumental methods of analysis in Pharmacy (integrated undergraduate and graduate university study of Pharmacy) - Continuous analytical systems with electroanalytical and spectrometrical detectors (postgraduate university study of Chemistry of the Mediterranean Environment)
Authorship of university/faculty textbooks in the field of the course	<ul style="list-style-type: none"> - Nj. Radić, L. Kukoc Modun, Uvod u analitičku kemiju, Školska knjiga, Zagreb, 2016. (sveučilišni udžbenik) - Nj. Radić, L. Kukoč Modun, Uvod u analitičku kemiju I. dio, Redak, Split, 2013. (sveučilišni udžbenik) - Nj. Radić, L. Kukoc Modun, Kinetic Methods of Analysis with Potentiometric and Spectrophotometric Detectors – Our Laboratory Experiences, Analytical Chemistry, Ira S. Krull (ur.), InTech, Rijeka, 2012., str. 73-92.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	<ol style="list-style-type: none"> 1. L. Kukoc-Modun, T. Kraljević, D. Tsikas, Nj. Radić, D. Modun, Determination of N-Acetyl-L-cysteine Ethyl Ester (NACET) by Flow Injection Analysis and Spectrophotometric Detection Using Different Thiol-Sensitive Ligands, <i>Molecules</i>, 26 (2021), 22; 6826, 9 doi:10.3390/molecules26226826 2. L. Kukoc Modun, M. Biočić, Nj. Radić, Determination of penicillamine, tiopronin and glutathione in pharmaceutical formulations by kinetic spectrophotometry, <i>Acta pharmaceutica</i>, 71 (2021), 4; 619-630 doi:10.2478/acph-2021-0038 3. L. Kukoc Modun, M. Biočić, Nj. Radić, Flow-injection Determination of Glutathione, Penicillamine and Tiopronin Based on the Reduction of Copper(II)-neocuproine Reagent, <i>Croatica chemica acta</i> (2020) doi:10.5562/cca3688

	<p>4. D. Tsikas, K. Schwedhelma, A. Surdacki, D. Giustarini, R. Rossi, L. Kukoc-Modun, G. Kedia, S. Ückert, S-Nitroso-N-acetyl-L-cysteine ethyl ester (SNACET) and N-acetyl-L-cysteine ethyl ester (NACET) – Cysteine-based drug candidates with unique pharmacological profiles for oral use as NO, H₂S and GSH suppliers and as antioxidants: Results and overview, <i>Journal of Pharmaceutical Analysis</i>, 8 (2018), 1; 1-9 doi:10.1016/j.jpha.2017.12.003</p> <p>5. L. Kukoc-Modun, D. Tsikas, T. Kraljević, M. Biočić, Nj. Radić, Kinetic Spectrophotometric Determination of N-Acetyl-L-cysteine Ethyl Ester (NACET) Generating Chromogenic Copper(II) Complexes with Different Ligands, <i>Croatica chemica acta</i>, 90 (2017), 2; 263-271 doi:10.5562/cca3135</p>
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)	- IP-2016-06-1316: Plants as a source of bioactive sulphur compounds and their ability to hyperaccumulate metals (BioSMe), research project funded by Croatian Science Foundation (2017- 2021)
The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of pedagogical competences	Course titled "Education of educators" organized by University of Split. Acquired competences from the area of education: methods of teaching, small group studying, problem oriented lectures, micro-teaching, communication skills and searching through scientific databases.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Prize awarded for the best scientific paper in Analytical Sciences journal, Hot Article: Kinetic Spectrophotometric Determination of N-acetyl-L-cysteine Based on Coupled Redox-Complexation Reaction
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	PhD Boris-Marko Kukovec, assistant professor
The course he/she teaches in the proposed study programme	Coordination polymers
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 445
E-mail address	bmukovec@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/kukovec-boris-marko
Year of birth	1983
Scientist ID	287545

Research or art rank, and date of last rank appointment	Senior research associate, 14/5/2019
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, 14/6/2018
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, Split
Date of employment	17/9/2018
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Coordination chemistry, coordination polymers, chemical crystallography, crystal engineering, polymorphism
Function	Head of Department of Physical Chemistry
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Science, University of Zagreb
Place	Zagreb
Date	25/2/2009
INFORMATION ON ADDITIONAL TRAINING	
Year	2010-2011
Place	Cape Town, South Africa
Institution	University of Cape Town
Field of training	Supramolecular chemistry, crystallography of small molecules
Year	2012
Place	Abu Dhabi, United Arab Emirates
Institution	New York University Abu Dhabi
Field of training	Spectroscopic characterization of bioluminescent compounds
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)
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)	<ul style="list-style-type: none"> - Physical Chemistry of the Electrolyte Solutions (graduate university study of Chemistry) - Physical Chemistry II (undergraduate university study of Chemistry)
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)	<p>1. N. Matijaković Mlinarić, N. Penić, B.-M. Kukovec, M. Đaković, Chalcogen S...S Bonding in Supramolecular Assemblies of Cadmium(II) Coordination Polymers with Pyridine-Based Ligands. <i>Crystals</i> 11 (2021) 697.</p> <p>2. L. Hok, E. Lluch Sanchez, R. Vianello, B.-M. Kukovec, Z. Popović, Self-Assembly of Cobalt(II) Coordination Polymers with Differently Halosubstituted Nicotinate Ligands and 4,4'-bipyridine – the Effect of the Halosubstituent Positions on Polymer Types. <i>Eur. J. Inorg. Chem.</i> (2021) 1470–1480.</p>

	<p>3. Z. Mohammadi, M. Tabatabaee, R. Mohebat, B.-M. Kukovec, A Two-Dimensional Barium(II) Coordination Polymer with Pyridinium-2,3-Dicarboxylate: Synthesis, Crystal Structure and Thermal Decomposition to Barium(II) Chloride Nanoparticles. <i>J. Inorg. Organomet. Polym.</i> 30 (2020) 5209–5216.</p> <p>4. M. Pisačić, I. Kodrin, N. Matijaković, N. Chatterjee, C. L. Oliver, B.-M. Kukovec, M. Đaković, Reversible Temperature-Stimulated Single-Crystal-to-Single-Crystal Conformational Polymorph Transformation in Cadmium(II) Coordination Trimer with a Water Vapor Sorption/Desorption Potential. <i>Cryst. Growth Des.</i> 20 (2020) 401–413.</p> <p>5. M. Đaković, M. Borovina, M. Pisačić, C. B. Aakeröy, Ž. Soldin, B.-M. Kukovec, I. Kodrin, Mechanically Responsive Crystalline Coordination Polymers with Controllable Elasticity. <i>Angew. Chem. Int. Ed.</i> 57 (2018) 14801–14805.</p>
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)	<p>- IP-2019-04-1242: From form to function: Mechanically flexible crystalline materials with controllable responses (FlexibleCrystals), research project of the Croatian Science Foundation (2020–2024)</p> <p>- Manganese(II) coordination polymers with the selected halonicotinates - preparation, structural characterization and redox properties, leader of the HAZU Foundation project (2021)</p> <p>- Pseudopolymorphism in cobalt(II) and nickel(II) coordination polymers with the mixed ligands, leader of the HAZU Foundation project (2020)</p> <p>- Cobalt(II) and nickel(II) coordination polymers with the derivatives of nicotinic acid, leader of the HAZU Foundation project (2019)</p>
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	<p>- The front cover in the journal <i>Chemical Science</i> of the publisher Royal Society of Chemistry (volume 4, issue 10, October 2013) for the paper: M. Rebarz, B. M. Kukovec, O. V. Maltsev, C. Ruckebusch, L. Hintermann, P. Naumov, M. Sliwa, <i>Chem. Sci.</i> 4 (2013) 3803–3809.</p> <p>- The Award of the International Union for Crystallography (IUCr) in chemistry for the poster presentation: B. M. Kukovec, I. Kodrin, M. Đaković, <i>Temperature-induced single-crystal-to-single-crystal polymorph transformation in cadmium(II) trimer with pyridine-4-propanamide</i>, awarded at the 30th Meeting of the European Crystallographic Association, Basel, Switzerland</p>
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)	
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First and last name and title of teacher	PhD Davor Margetić, scientific advisor
The course he/she teaches in the proposed study programme	Ecologically friendly methods of organic synthesis

GENERAL INFORMATION ON COURSE TEACHER

Address	Ruđer Bošković Institute, Bijenička cesta 54, 10000 Zagreb
Telephone number	++385 1 4680 197
E-mail address	margetid@irb.hr
Personal web page	https://www.irb.hr/O-IRB-u/Ljudi/Davor-Margetic
Year of birth	1963
Scientist ID	161124
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	Scientific advisor, 16/11/2005
Area and field of election into research or art rank	Natural Science, Chemistry

INFORMATION ON CURRENT EMPLOYMENT

Institution where employed	Ruđer Bošković Institute, Bijenička cesta 54, 10000 Zagreb
Date of employment	1/4/2002
Name of position (professor, researcher, associate teacher, etc.)	Senior scientist with tenure
Field of research	Physical organic chemistry
Function	Head of DOCB

INFORMATION ON EDUCATION – Highest degree earned

Degree	PhD
Institution	Faculty of natural sciences and mathematics
Place	Zagreb
Date	15/7/1993

INFORMATION ON ADDITIONAL TRAINING

Year	1994.-2002.
Place	Rockhampton, Australija
Institution	Central Queensland University
Field of training	Organic chemistry

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)

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)	- Special methods in organic synthesis (postgraduate university study of Medical Chemistry, Department of Biotechnology, University of Rijeka)
Authorship of university/faculty textbooks in the field of the course	- D. Margetić , High Pressure Organic Synthesis, De Gruyter, Berlin 2019.

	<p>- D. Margetić, Štrukil, V., Mechanochemical Organic Synthesis, Elsevier, Amsterdam, 2016.</p> <p>- D. Margetić, Microwave Assisted Cycloaddition Reactions, Nova Science Publishers, Hauppauge, New York, 2011.</p>
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	<p>1. M. Đud, A. Briš, I. Jušinski, D. Gracin, D. Margetić, J. Beilst, Mechanochemical Friedel-Crafts acylations, <i>Org. Chem.</i> 2019, 15, 1313-1320.</p> <p>2. M. Đud, Z. Glasovac, D. Margetić, The utilization of ball-milling in synthesis of aryl guanidines through guanidinylation and N-Boc-deprotection sequence, <i>Tetrahedron</i> 2019, 75, 109-115.</p> <p>3. T. Portada, D. Margetić, V. Štrukil, Mechanochemical catalytic transfer hydrogenation of aromatic nitro derivatives, <i>Molecules</i> 2018, 23, 3163-3180.</p> <p>4. G. Ayoub, V. Štrukil, L. Fábíán, C. Mottillo, H. Bao, Y. Murata, A. Moores, D. Margetić, M. Eckert-Maksić, T. Friščić, Mechanochemistry vs. solution growth: striking differences in bench stability of a cimetidine salt based on synthetic method, <i>CrystEngComm</i> 2018, 45, 7242-7247.</p> <p>5. A. Briš, M. Đud, D. Margetić, J. Beilst. Mechanochemical N-alkylation of imides, <i>Org. Chem.</i> 2017, 13, 1745-1752.</p>
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)	- IP-2018-01-3298: Cycloaddition strategies towards polycyclic guanidines (CycloGu), research project of the Croatian Science Foundation (2018-2022)
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	<p>- 2012. Annual award of the director of the Ruđer Bošković Institute for the published book</p> <p>- 2020. Annual award of the director of the Ruđer Bošković Institute for published scientific work in 2019</p>
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	PhD Mladen Miloš, full professor
The course he/she teaches in the proposed study programme	Influence of phenylboronic acid on efficiency of biological active compounds
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 465
E-mail address	Mladen.Milos@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/milos-mladen
Year of birth	1956
Scientist ID	211625
Research or art rank, and date of last rank appointment	Scientific adviser, 15/2/2005
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 18/1/2010
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of chemistry and technology
Date of employment	1/10/1993
Name of position (professor, researcher, associate teacher, etc.)	Full professor with tenure
Field of research	Biochemistry
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Facultes des Sciences
Place	Geneva
Date	13/7/1989
INFORMATION ON ADDITIONAL TRAINING	
Year	2002
Place	Marseille
Institution	University of Provence
Field of training	Natural products
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 (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (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)	<ul style="list-style-type: none"> - Basics of biochemistry (professional study Chemical Technology) - Biochemistry I and II (undergraduate university study of Chemistry) - Physical Biochemistry (graduate university study of Chemistry and integrated undergraduate and graduate study of Pharmacy)

	- Cellular signaling (postgraduate university study Chemistry of the Mediterranean Environment)
Authorship of university/faculty textbooks in the field of the course	Script for the course "Fundamentals of Biochemistry"
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	<p>1. S. Herenda, J. Ostojić, M. Miloš, E. Hasković, D. Hasković, E. Deljkic, The Effect of ACE Inhibitor (perindopril) on Peroxidase Activity in vitro Conditions, <i>International Journal of Electrochemical Science</i> 14 (2019) 10130-10138</p> <p>2. M. Marasović, S. Ivanković, R. Stojković, D. Djerić, B. Galić, M. Miloš, In vitro and in vivo antitumour effects of phenylboronic acid against mouse mammary adenocarcinoma 4T1 and squamous carcinoma SCCVII cells, <i>Journal of enzyme inhibition and medicinal chemistry</i>, 32 (2017) 1299-1304</p> <p>3. J. Ostojić, S. Herenda, Z. Besić, M. Miloš, B. Galić, Advantages of an Electrochemical Method Compared to the Spectrophotometric Kinetic Study of Peroxidase Inhibition by Boroxine Derivative, <i>Molecules</i>, 22 (2017) 1120-1129</p> <p>4. M. Marasović, T. Marasović, B. Galić, M. Miloš, Quantum Chemical and Biochemical Study on Antioxidant Properties of Halogenated Boroxine K₂[B₃O₃F₄OH], <i>Croatica chemica acta</i>, 90 (2017) 155-161</p> <p>5. M. Marasović, T. Marasović, M. Miloš, Robust Nonlinear Regression in Enzyme Kinetic Parameters Estimation, <i>Journal of Chemistry</i>, 2017 (2017) 1-12</p>
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)	- IP-2014-09-6897: Research of bioactive compounds from Dalmatian plants: their antioxidant character and impact on enzyme inhibition and health (BioActCom), research project of the Croatian Science Foundation (2015-2019)
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	
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	PhD Ivana Mitar, assistant professor
The course he/she teaches in the proposed study programme	Preparation and characterization of ion-selective electrodes
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Science, University of Split, R. Bošković 33, 21000 Split
Telephone number	++385 21 619 279
E-mail address	imitar@pmfst.hr
Personal web page	https://www.pmfst.unist.hr/team/ivana-mitar/
Year of birth	1982
Scientist ID	298900
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, 1/7/2019
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Science, University of Split
Date of employment	2007
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Analytical instrumental research methods (XRD, spectroscopic, chromatographic and potentiometric methods, electron microscopy), synthesis and analysis of inorganic nanoparticles
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemical Engineering and Technology, University of Zagreb
Place	Zagreb
Date	12/6/2015
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)
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)	<ul style="list-style-type: none"> - Analytical Chemistry 1 (undergraduate university study of Biology and Chemistry, Faculty of Science, University of Split) - Analytical methods (undergraduate university study of Biology, Faculty of Science, University of Split) - Optimization and validation of analytical methods (undergraduate university study of Biology and Chemistry, Faculty of Science, University of Split)
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)	<p>1. A. Prkić, T. Vukušić, I. Mitar, J. Giljanović, V. Sokol, P. Bošković, M. Jakić, A. Sedlar. New sensor based on AgCl containing Iron Oxide or Zinc Oxide Nanoparticles for Chloride Determination, <i>International journal of electrochemical Science</i>, 14 (2019) 861 – 874, doi: 10.20964/2019.01.71</p> <p>2. J. Radić, M. Bralić, M. Kolar, B. Genorio, A. Prkić, I. Mitar. Development of the New Fluoride Ion-Selective Electrode Modified with Fe₃O₄ Nanoparticles, <i>Molecules</i>, 25 (2020), 5213, doi:10.3390/molecules25215213</p> <p>3. A. Paut, A. Prkić, I. Mitar, P. Bošković, D. Jozić, M. Jakić, T. Vukušić. Potentiometric Response of Solid-State Sensors Based on Ferric Phosphate for Iron(III) Determination, <i>Sensors</i> 21 (2021), 1612, doi: 10.3390/s21051612</p> <p>4. I. Mitar, L. Guć, Ž. Soldin, M. Vrankić, A. Paut, A. Prkić, S. Krehula. Rapid Microwave Method for Synthesis of Iron Oxide Particles under Specific Conditions, <i>Crystals</i> 11 (2021) 383, doi:10.3390/cryst11040383</p>
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)	<ul style="list-style-type: none"> - UIP-2017-05-6282: Development of new membranes for ion-selective electrodes enriched with nanoparticles of metals and metal oxides (NANOISEM), research project funded by Croatian Scientific Foundation (2018-2023) – collaborator - H2020-NMBP-TO-IND-2018-2020: FOUNDATIONS FOR TOMORROW'S INDUSTRY: Next generation test bed for upscaling of microfluidic devices based on nano-enabled surfaces and membranes (2020-2024) – collaborator - IP-2016-06-8254: Formation and properties of 1D α-Fe₂O₃ nanostructures doped with selected metal ions, research project funded by Croatian Science Foundation (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	
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	PhD Ivona Nuić, assistant professor

The course he/she teaches in the proposed study programme	Application of natural sorbents in environmental remediation
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 451
E-mail address	ivona@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/nuic-ivona-2
Year of birth	1979
Scientist ID	292293
Research or art rank, and date of last rank appointment	Senior research associate, 12/7/2019
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, 19/10/2018
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology in Split
Date of employment	29/12/2006
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Scientific and teaching work in the field of chemical engineering and environmental protection
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology in Split
Place	Split
Date	26/6/2013
INFORMATION ON ADDITIONAL TRAINING	
Year	2021
Place	Ljubljana, Slovenia
Institution	Geological Survey of Slovenia
Field of training	Environmental Geology; XRD, SEM/EDS
Year	2018
Place	Krakow, Poland
Institution	AGH University of Science and Technology, Krakow, Poland
Field of training	Erasmus + staff mobility for training purposes; The mercury analyser
Year	2017
Place	Belgrade, Serbia
Institution	Faculty of Mining and Geology, University of Belgrade, Belgrade, Serbia Institute for Technology of Nuclear and Other Mineral Raw Materials, Belgrade, Serbia
Field of training	Scanning Electron Microscopy (SEM/EDS)
Year	2017
Place	Belgrade, Serbia
Institution	Institute for Technology of Nuclear and Other Mineral Raw Materials, Belgrade, Serbia
Field of training	Work on instrumental techniques - analysis of solid samples
Year	2017

Place	Novi Sad, Serbia
Institution	Faculty of Technical Sciences, University of Novi Sad, Serbia Department of Environmental Engineering and Occupational Safety and Health Laboratory for Landfill, Wastewater and Air Monitoring
Field of training	Environmental Protection High Performance Liquid Chromatography (HPLC)
Year	2016
Place	Belgrade, Serbia
Institution	Faculty of Mining and Geology, University of Belgrade, Belgrade, Serbia Institute for Technology of Nuclear and Other Mineral Raw Materials, Belgrade, Serbia
Field of training	Scanning Electron Microscopy (SEM/EDS)
Year	2016
Place	Ljubljana, Slovenia
Institution	Geological Survey of Slovenia
Field of training	Environmental Geology; Scanning Electron Microscopy SEM/EDS
Year	2015
Place	Milan, Italy
Institution	Universita Degli Studi di Milano, Dipartimento di Scienze della Terra "Ardito Desio", Milan, Italy
Field of training	Laboratory instruments and techniques: Scanning Electron Microscopy (SEM/EDS), Powder Diffraction Method (XRD), Electron Microprobe Analysis (EMPA), Raman Spectroscopy
Year	2011
Place	Belgrade, Serbia
Institution	Institute for Technology of Nuclear and Other Mineral Raw Materials, Belgrade, Serbia
Field of training	Scanning Electron Microscopy SEM/EDS
Year	2007
Place	Rijeka, Croatia
Institution	University in Rijeka, Croatia & ELETTRA Sincrotrone Trieste, Italy
Field of training	The 1 st Croatian Synchrotron Radiation Summer School, SynCro '07
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 (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)	- Analysis and Optimization of Water Use (undergraduate university study of Chemical Technology) - Industrial Wastewaters (undergraduate professional study of Materials, Protection and Recycling)
Authorship of university/faculty textbooks in the field of the course	
Professional, scholarly and artistic articles published in the last five	1. A. Pavlinović, M. Novaković, I. Nuić, Removal of carbendazim from aqueous solutions by adsorption on different

years in the field of the course (5 works at most)	<p>types of zeolite, <i>St open</i>, 2 (2021), e2021.1906.14, 11 doi:10.48188/so.2.9.</p> <p>2. M. Ugrina, M. Gaberšek, A. Daković, I. Nuić, Preparation and Characterization of the Sulfur-impregnated Natural Zeolite Clinoptilolite for Hg(II) Removal from Aqueous Solutions, <i>Processes</i>, 9 (2021), 217, 25.</p> <p>3. M. Ugrina, T. Čeru, I. Nuić, M. Trgo, Comparative Study of Mercury(II) Removal from Aqueous Solutions onto Natural and Iron-Modified Clinoptilolite Rich Zeolite, <i>Processes</i>, 8 (2020), 11; 1523, 21.</p> <p>4. I. Nuić, M. Trgo, N. Vukojević Medvidović, M. Ugrina, A Mass Transfer Analysis of Competitive Binding of Pb, Cd, and Zn from Binary Systems onto a Fixed Zeolite Bed, <i>International Journal of Environmental Research and Public Health</i>, 16 (2019), 3; 426-446.</p> <p>5. N. Vukojević Medvidović, I. Nuić, M. Ugrina, M. Trgo, Evaluation of natural zeolite as a material for permeable reactive barrier for remediation of zinc contaminated groundwater based on column study, <i>Water, air and soil pollution</i>, 229 (2018), 367, 4.</p>
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)	<ul style="list-style-type: none"> - Natural Modified Sorbents as Materials for Remediation of Mercury Contaminated Environment, scientific-research bilateral Croatian-Slovenian project (2020-2023) - Reinforcing Sustainable Actions, Resilience, Cooperation and Harmonisation Across and by the SEA-EU Alliance-reSEARCh-EU, work package (WP2) Greening Research and Innovation Practices, Horizon 2020 project (2021-2023) - Application of natural zeolite for remediation of mercury contaminated soil, leader of the scientific-research bilateral Croatian-Slovenian project (2016-2017) - IP-11-2013-4981: Natural zeolites as a reactive barrier for landfill leachate treatment (NAZELLT), scientific project of the Croatian Science Foundation (2014-2018) - Low-cost sorbents as a potential materials for in situ remediation of heavy-metal contaminated groundwater, scientific-research bilateral Croatian-Serbian project (2016-2017)
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	Professional development "Development and Improvement of Pedagogical Competencies of University Teachers", Faculty of Philosophy in Split, University of Split, December 8-9, 2014
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	Award of the International Water Association (IWA) for the best oral presentation entitled "Environmental Hazard Assessment of Mercury-Contaminated Soil of the Idrija District in Slovenia Using the Standard Leaching Method" at the 9 th IWA Eastern

	European Young Water Professionals Conference, Budapest, Hungary, 2017
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	PhD Sanja Perinović Jozić, associate professor
The course he/she teaches in the proposed study programme	Trends in development of polymer blends and composites
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 455
E-mail address	sanja@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/perinovic-jozic-sanja
Year of birth	1978
Scientist ID	267214
Research or art rank, and date of last rank appointment	Senior research associate, 2/3/2021
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, May 24/5/2021
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/9/2005
Name of position (professor, researcher, associate teacher, etc.)	Associate professor
Field of research	Polymer processing. Biodegradable polymers, polymer blends and composites. Thermal and mechanical properties of polymer materials.
Function	-
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	11/1/2012
INFORMATION ON ADDITIONAL TRAINING	
Year	2006
Place	Aachen, Germany
Institution	Deutsches Wollforschungsinstitut an der Rheinisch-Westfälisch Technische Hochschule (DWI an der RWTH)
Year	2007
Place	Toulouse, France
Institution	Intensive Programme (IP) Renewable Biomaterials, Erasmus Programme
Year	2011

Place	Trst, Italy
Institution	Elettra-Sincrotrone Trieste S.C.p.A.
Field of training	Polymeric materials (blends, composites)
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)	<ul style="list-style-type: none"> - Polymer blends and composites (graduate university study Chemical Technology) - Polymeric materials (undergraduate professional study Materials protection and recycling)
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)	<p>1. S. Perinović Jozić, F. Folo, I. Beljo, B. Andričić, Preparation and thermal analysis of poly(lactic acid) with modified olive stone flour, 21st International Conference on Materials MATRIB 2021, Vela Luka, Hrvatska, 2021, 259-273.</p> <p>2. S. Perinović Jozić, D. Jozić, J. Jakić, B. Andričić, Preparation and characterization of PLA composites with modified magnesium hydroxide obtained from seawater, Journal of thermal analysis and calorimetry, 142 (2020), 5; 1877-1889.</p> <p>3. S. Perinović Jozić, Sanja; A. Sesar, Z. Grubač, B. Andričić, Utjecaj natrijeva alginata na svojstva poli(etilen-oksida) kao matrice za pripravu čvrstih polimernih elektrolita, Kemija u industriji: časopis kemičara i tehnologa Hrvatske, 69 (2020), 9-10; 503-514.</p> <p>4. S. Perinović Jozić, A. Mihovilović, B. Andričić, Utjecaj modelnih otopina na poli(3- hidroksibutirat)/montmorilonit kompozite, Kemija u industriji: časopis kemičara i tehnologa Hrvatske, 69 (2020), 5-6; 281-293.</p> <p>5. S. Perinović Jozić, D. Jozić, M. Erceg, B. Andričić, S. Bernstorff, Nonisothermal crystallization of poly(L-lactide) in poly(L-lactide)/olive stone flour composites, Thermochimica acta, 683 (2020), 1-9.</p>
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	<ul style="list-style-type: none"> - Green scholarships of Carlsberg Croatia for a one-year project "Polylactide composites with olive stone flour as a filler". - IUPAC scholarships for participation in European Polymer Congress 2009 for a paper Application of Model-Free Kinetics to the Thermal Degradation of Poly(L-lactide)/Olive Stone Flour Composites. - Acknowledgement for the best presentation for work: S. Perinović Jozić, A. Stoilova, J. Jakić, B. Andričić, Preparation and thermal analysis of polylactic acid/magnesium hydroxide composites, 20th International Conference MATRIB20 2019, Vela Luka, Hrvatska (2019), Book of Abstracts 175-190.
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	PhD Ante Prkić, associate professor
The course he/she teaches in the proposed study programme	Statistics and Chemometrics Preparation and characterization of ion-selective electrodes
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 462
E-mail address	ante.prkic@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/prkic-ante
Year of birth	1981
Scientist ID	313112
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, 26/9/2019
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	20/4/2006
Name of position (professor, researcher, associate teacher, etc.)	Associate professor
Field of research	Development of electroanalytical sensors
Function	Vice-Dean for Teaching
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemical Engineering and Technology, University of Zagreb

Place	Zagreb
Date	30/9/2013
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)
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)	<ul style="list-style-type: none"> - Analytical Chemistry (undergraduate university study of Chemical Technology and undergraduate university study of Food Technology) - Chemometrics, Physical methods of analysis, Methods of separation and speciation (graduate university study of chemistry)
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)	<p>1. A. Prkić, T. Vukušić, I. Mitar, J. Giljanović, V. Sokol, P. Bošković, M. Jakić, A. Sedlar, New sensor based on AgCl containing Iron Oxide or Zinc Oxide Nanoparticles for Chloride Determination, <i>International journal of electrochemical Science</i>, 14 (2019) 861 – 874, doi: 10.20964/2019.01.71.</p> <p>2. J. Radić, M. Bralić, M. Kolar, B. Genorio, A. Prkić, I. Mitar. Development of the New Fluoride Ion-Selective Electrode Modified with Fe₃O₄ Nanoparticles, <i>Molecules</i>, 25 (2020), 5213; doi:10.3390/molecules25215213.</p> <p>3. A. Paut, A. Prkić, I. Mitar, P. Bošković, D. Jozić, M. Jakić, T. Vukušić. Potentiometric Response of Solid-State Sensors Based on Ferric Phosphate for Iron(III) Determination, <i>Sensors</i> 21 (2021), 1612. https://doi.org/10.3390/s21051612.</p> <p>4. I. Mitar, L. Guć, Ž. Soldin, M. Vrankić, A. Paut, A. Prkić, S. Krehula. Rapid Microwave Method for Synthesis of Iron Oxide Particles under Specific Conditions, <i>Crystals</i> 11 (2021) 383; https://doi.org/10.3390/cryst11040383.</p> <p>5. M. Gudelj, P. Šurina, L. Jurko, A. Prkić, P. Bošković. The Additive Influence of Propane-1,2-Diol on SDS Micellar Structure and Properties, <i>Molecules</i>, 26 (2021), 3773. https://doi.org/10.3390/molecules26123773.</p>
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)	- UIP-2017-05-6282: Development of new membranes for ion-selective electrodes enriched with nanoparticles of metals and metal oxides (NANOISEM), leader of research project funded by Croatian Scientific Foundation (2018-2023) - leader

	<ul style="list-style-type: none"> - H2020-NMBP-TO-IND-2018-2020: FOUNDATIONS FOR TOMORROW'S INDUSTRY: Next generation test bed for upscaling of microfluidic devices based on nano-enabled surfaces and membranes: workpackage leader at University of Split (2020-2024) - Fostering Academia-Industry Collaboration in Food Safety and Quality (FOODQA), consortium leader: Jordan University of Science and Technology (JUST), Erasmus+ (2017- 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	
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	<ul style="list-style-type: none"> - Award for successful young scientist of the Faculty of Chemistry and Technology, 2013 - Award for special achievements in scientific work of the Faculty of Chemistry and Technology, 2020
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	PhD Marin Roje, associate professor
The course he/she teaches in the proposed study programme	Methods for preparation and separation of chiral compounds
GENERAL INFORMATION ON COURSE TEACHER	
Address	Ruđer Bošković Institute, Bijenička cesta 54, 10000 Zagreb
Telephone number	++385 1 457 1283
E-mail address	mroje@irb.hr
Personal web page	https://www.irb.hr/eng/About-RBI/People/Marin-Roje
Year of birth	1972
Scientist ID	237461
Research or art rank, and date of last rank appointment	Senior research associate, 30/10/2009
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, 16/5/2019
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Ruđer Bošković Institute
Date of employment	1/4/1997
Name of position (professor, researcher, associate teacher, etc.)	Senior research associate
Field of research	Organic chemistry
Function	Head of the laboratory
INFORMATION ON EDUCATION – Highest degree earned	

Degree	PhD
Institution	University of Strasbourg (Ecole de Chimie, Polymeres et Materiaux-ECPM)
Place	Strasbourg, France
Date	19/12/2003
INFORMATION ON ADDITIONAL TRAINING	
Year	2004/2005
Place	New York, USA
Institution	Columbia University
Field of training	Organic chemistry (natural products)
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)	<ul style="list-style-type: none"> - Selected methods in organic synthesis and Stereochemical differentiation of natural products (postgraduate university study of Chemistry of the Mediterranean Environment) - Synthesis of natural products and design of synthetic enzymes and Stereochemistry of drugs and asymmetric synthesis (postgraduate university study of Medicinal Chemistry, Department of Biotechnology, University of Rijeka) - Organic Chemistry I (integrated undergraduate and graduate university study of Pharmacy, University of Split)
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)	<p>1. A. Dobrinčić, S. Pedisić, Z. Zorić, M. Jurin, M. Roje, R. Čož-Rakovac, V. Dragović-Uzelac, Microwave Assisted Extraction and Pressurized Liquid Extraction of Sulfated Polysaccharides from <i>Fucus virsoides</i> and <i>Cystoseira barbata</i>, <i>Foods</i>, 10 (2021), 7; 1481.</p> <p>2. M. Jurin, D. Kontrec, T. Dražić, M. Roje, Enantioseparation of (±)-<i>trans</i>-β-lactam Ureas by Supercritical Fluid Chromatography, <i>Croatica chemica acta</i>, 93 (2020), 3; 203-213.</p> <p>3. T. Dražić, K. Molčanov, M. Jurin, M. Roje, Synthesis of marine alkaloids leucettamines B and C by β-lactam ring rearrangement, <i>Synthetic communications</i>. 47 (2017), 8; 764-770.</p> <p>4. T. Dražić, M. Roje, β-lactam rearrangements into five-membered heterocycles, <i>Chemistry of Heterocyclic Compounds</i>. 53 (2017), 9; 953-962.</p> <p>5. D. Pavoković, R. Buđa, F. Andrašec, M. Roje, M. Cvjetko Bubalo, I. Radojčić Redovniković, Plant-mediated asymmetric reduction of 1-(3, 4-dimethylphenyl)ethanone, <i>Tetrahedron: Asymmetry</i>. 28 (2017), 5; 730-733.</p>
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)	<ul style="list-style-type: none"> - KK.01.2.1.02.0015: <i>In silico</i> assessment of microalgae bioactivity to the development of innovative biobased products, head of the scientific part of the IRI-2 project by the Ruđer Bošković Institute (2020-2023) - KK.01.2.2.03.0017: Medicinal and aromatic plants: innovative products, head of the scientific part of the CEKOM 3LJ project by the Ruđer Bošković Institute (2020-2023). - Interreg Adrion (BIOECO R.D.I.) Research driven Innovation, EU research project (2018-2020) - KK.01.1.1.01.0002: BioProspecting of the Adriatic Sea, work package leader "Bioorganic Synthesis", Scientific Center of Excellence for Marine Bioprospecting-BioProCro, (2017-2022) - H2020 PerformFISH-WP3: Boosting fish health at all lifecycle stages, EU research project (2017-2022)
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	<ul style="list-style-type: none"> - Award of the Croatian chemical society and Pliva "Vladimir Prelog", 2006. - Annual Award of the Biotechnical Foundation, 1997. - Annual University of Zagreb Rector's Award 1995. and 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)	

First and last name and title of teacher	PhD Andrei Rotaru, associate professor
The course he/she teaches in the proposed study programme	Progress at the postgraduate level through scientific research and publication
GENERAL INFORMATION ON COURSE TEACHER	
Address	Str. Cal. Bucuresti, nr. 9, bl. U1, ap. 3, 200404, Craiova, Romania
Telephone number	+407 4537 9205
E-mail address	andrei.rotararu@edu.ucv.ro andreirotaru2016@yahoo.com
Personal web page	
Year of birth	1983
Scientist ID	
Research or art rank, and date of last rank appointment	Doctor Habilitate, 2021
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate Professor, 2017
Area and field of election into research or art rank	Natural Science, Chemistry

INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Central and Eastern European Committee for Thermal Analysis and Calorimetry
Date of employment	1. 10. 2017.
Name of position (professor, researcher, associate teacher, etc.)	Associate Professor (Reader)
Field of research	Chemistry, Physics
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD studies/Doctorate in Chemistry
Institution	University of St Andrews
Place	St Andrews, United Kingdom
Date	2013
INFORMATION ON ADDITIONAL TRAINING	
Year	PhD studies/Doctorate in Physics
Place	Craiova
Institution	University of Craiova
Field of training	Physics
MOTHER TONGUE AND FOREIGN LANGUAGES	
Mother tongue	Romanian
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 (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Croatian (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)	Introduction to Scientific Research (Undergraduate Study program in Pharmacy, University of Medicine and Pharmacy of Craiova, Craiova, Romania)
Authorship of university/faculty textbooks in the field of the course	
Professional and scientific articles published in the last five years in the field of the course (5 works at most)	<p>1. A. Rotaru, A. Moanță, G. Iacobescu, I. Pălărie, N. Cioateră, M. Popescu, M. Catalin Criveanu, E. Morîntale, M. Bojan, P. Rotaru, M. Leulescu, Azorubine: physical, thermal and bioactive properties of the widely employed food, pharmaceutical and cosmetic red azo dye material, <i>Journal of Thermal Analysis and Calorimetry</i>, 143 (2021), 3945–3967.</p> <p>2. J. A. McNulty, D. Pesquera, J. Gardner, A. Rotaru, H. Y. Playford, M. G. Tucker, M. A. Carpenter, F. D. Morrison, Local Structure and Order–Disorder Transitions in “Empty” Ferroelectric Tetragonal Tungsten Bronzes, <i>Chemistry of Materials</i>, 32 (2020), 19, 8492–8501.</p> <p>3. A. Radu Corbu, A. Rotaru, V. Nour, Edible vegetable oils enriched with carotenoids extracted from by-products of sea buckthorn (<i>Hippophae rhamnoides</i> ssp. <i>sinensis</i>): the investigation of some characteristic properties, oxidative</p>

	<p>stability and the effect on thermal behaviour, <i>Journal of Thermal Analysis and Calorimetry</i>, 142 (2020), 2, 735–747.</p> <p>4. T. Lupaşcu, O. Petuhov, N. Ţîmbaliuc, S. Cibotaru, A. Rotaru, Adsorption capacity of Vitamin B12 and Creatinine on highly-mesoporous activated carbons obtained from lignocellulosic raw materials, <i>Molecules</i>, 25 (2020), 13, 3095.</p> <p>5. A. Rotaru, F. D. Morrison, Structural, electrical and relaxor properties of Sc-In solid solution in tetragonal tungsten bronze ceramics, <i>Ceramics International</i>, 45 (2019), 2, Part B, 2710-2718.</p>
Professional and scientific articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1. N. Rotari, A. Rotaru , S. Vecchio Ciprioti, E. Coropceanu, The thermal analysis and calorimetry-as a group of methods for developing modern competences of research for student, 5th Central and Eastern European Conference on Thermal Analysis and Calorimetry and 14th Mediterranean Conference on Calorimetry and Thermal Analysis, 2019, Rome, Italy.
Professional, scientific and artistic projects in the field of the course carried out in the last five years (5 at most)	PN-III-P2-2.1-PTE-2019-0198: Realization of a multi-canal electrochemical probe for monitoring the evolution of sediments (SEMSED), Romania
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	Cycle 1 of psiho-pedagogical modulus.
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scientific/artistic work	<ul style="list-style-type: none"> - Prize of Excellence in Research for Physical & Chemical Sciences 2020. Award offered by the "Ad Astra" Association to researchers with more than 7 years of experience and based in Romania, 29 December 2020, Bucharest, Romania - STK Young Scientist Award 2019. Award offered by the Swiss Association for Thermal Analysis and Calorimetry at the 43rd Annual Meeting of STK 2019, Thun, Switzerland - ICTAC Young Scientist Award. Award offered by the International Confederation for Thermal Analysis & Calorimetry at ICTAC16 (USA)

First and last name and title of teacher	PhD Ivana Smoljko, associate professor
The course he/she teaches in the proposed study programme	Applied electrochemistry in material development Corrosion Management
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, Ruđera Boškovića 35, 21000 Split
Telephone number	++385 21 468 444
E-mail address	ismoljko@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/smoljko-ivana
Year of birth	1977
Scientist ID	267183
Research or art rank, and date of last rank appointment	Senior research associate, 28/5/2019

Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, 25/9/2019
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	30/4/2004
Name of position (professor, researcher, associate teacher, etc.)	Associate professor
Field of research	Chemical engineering; The electrochemical and corrosion process at the solid/liquid phase boundary
Function	Head of Department of Electrochemistry & Materials Protection
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology
Place	Split
Date	30/4/2010
INFORMATION ON ADDITIONAL TRAINING	
Year	2019
Place	Split
Institution	Faculty of Chemistry and Technology
Field of training	Technical sciences, Chemical engineering Operating instructions on Materials Testing Machine Zwick/Roell and the relevant safety instruction in compliance with Machinery Directive 2006/42/EG
Year	2007
Place	Rijeka
Institution	University of Rijeka
Field of training	Natural sciences, Physics First Synchrotron Radiation Summer School "Syncro 07"
Year	2006
Place	Palić, Vojvodina, Serbia
Institution	4th European Summer School on Electrochemical Engineering "ESSEE 4"
Field of training	Technical sciences, Chemical engineering
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)
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)	- Electrocatalysis (postgraduate university study programme: Chemical Engineering in Materials Development and Environmental Protection) - Corrosion and metals protection (undergraduate professional study Materials Protection and Recycling)
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. I. Smoljko , L. Vrsalović, S. Gudić, K. Đaković, Istraživanje utjecaja inhibitora na koroziju ugljičnog čelika u vodi s biocidom, <i>Kemija u industriji</i> 69 (2020), 9-10, 481-491.

	<p>2. F. Mrčela, I. Smoljko, R. C. S. Dias, C. Gomes, Molecularly imprinted polymers for determination of gallic acid, <i>Proceedings of the 18th Ružička Days "Today Science – Tomorrow Industry"</i> / Jukić, Ante ; Očelić Bulatović, Vesna ; Kučić Grgić, Dajana (ur.). Zagreb i Osijek: Croatian Society of Chemical Engineers (CSCE) Faculty of Food Technology Osijek University of Josip Juraj Strossmayer in Osijek (2021), 11-18.</p> <p>3. L. Vrsalović, S. Gudić, D. Gracić, I. Smoljko, I. Ivanić, M. Kliškić, E. E. Oguzie, Corrosion Protection of Copper in Sodium Chloride Solution using Propolis, <i>International journal of electrochemical science</i> 13 (2018), 2, 2102-2117.</p> <p>4. Z. Jurun, I. Smoljko, L. Vrsalović, Inhibicija korozije ugljičnog čelika uporabom komine maslina, <i>Zbornik radova međunarodnog skupa studenata tehnologije XII</i>, Tehnološki fakultet Novi Sad (2017), 1-4.</p>
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1. I. Carev, M. Buljac, L. Vrsalović, I. Smoljko , N. Vukojević Medvidović, Educational impact of STEM students service-learning, Društveno-korisno učenje na sveučilištima u Republici Hrvatskoj - obrazovanje za okoliš i održivi razvoj, I. Carev, M. Radman, G. Medunić-Orlić, Z. Mihanović (ur.), Split: Udruga za prirodu, okoliš i održivi razvoj Sunce (2020), 17-21.
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	Development and improvement of pedagogical competencies of university teachers, University of Split, Faculty of Humanities and Social Sciences, 8 and 9 December 2014
PRIZES AND AWARDS, STUDENT EVALUATION	
Prizes and awards for teaching and scholarly/artistic work	<ul style="list-style-type: none"> - Plaque from the University of Split for Outstanding Contribution to Introduction and Implementation of Socially Beneficial Learning (14/6/2021) - The Dean's Recognition Award for promoting the activities of the Faculty of Chemistry and Technology in Split throughout the academic year 2011–2012, 2012 - Award of the University of Split for the best study programs presentation (creating a presentation of study programs for the Faculty of Chemistry and Technology in Split), 2010
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	PhD Nataša Stipanelov Vrandečić, full professor
The course he/she teaches in the proposed study programme	Kinetic analysis of thermally activated processes in polymeric materials
GENERAL INFORMATION ON COURSE TEACHER	

Address	Faculty of Chemistry and Technology, University of Split, Ruđera Boškovića 35, 21000 Split
Telephone number	++385 21 329 457
E-mail address	nstip@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/obavijesti-2/obavijesti-poslijediplomski-studij/172-djelatnici/cv/185-cv57
Year of birth	1966
Scientist ID	226264
Research or art rank, and date of last rank appointment	Scientific advisor, 7/9/2021
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 24/11/2021
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/6/1995
Name of position (professor, researcher, associate teacher, etc.)	Full professor with tenure
Field of research	Polymer Engineering
Function	Head of Department of Organic Technology
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	28/3/2003
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)	<ul style="list-style-type: none"> - Plasticization and stabilization of polymers (postgraduate university doctoral study Chemical engineering in materials development and environmental protection) - Thermal and thermooxidative degradation of polymers (postgraduate university doctoral study Chemical engineering in materials development and environmental protection) - Characterisation of Polymers (graduate university study Chemical Technology, orientation: Materials)
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)	<p>1. N. Stipanelov Vrandečić, M. Erceg, B. Andričić i P. Čerdić, Kinetička analiza izotermne razgradnje poli(etilen-oksida) modificiranog fenil hepta izobutil poliedarskim oligomernim silseskvioksanima, <i>Kemija u industriji</i>, 69 (5-6) (2020) 261–268.</p> <p>2. N. Stipanelov Vrandečić, M. Erceg, B. Andričić, I. Blanco, F.A. Bottino, Characterization of poly(ethylene oxide) modified with</p>

	<p>different phenyl hepta isobutyl polyhedral oligomeric silsesquioxanes, <i>Journal of Thermal Analysis and Calorimetry</i> 142 (2020) 1863-1875.</p> <p>3. M. Erceg, I. Krešić, N. Stipanelov Vrandečić, M. Jakić, Different approaches to the kinetic analysis of thermal degradation of poly(ethylene oxide), <i>Journal of Thermal Analysis and Calorimetry</i> 131 (2018) 325-334.</p> <p>4. M. Jakić, N. Stipanelov Vrandečić, M. Erceg, The influence of poly(ethylene glycol) on thermal properties of poly(vinyl chloride)/poly(ethylene oxide) blends, <i>Journal of Thermal Analysis and Calorimetry</i> 127 (2017) 663-674.</p>
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	Award of the Society for Plastics and Rubber for a scientific master's thesis in the field of polymer technology (2001)

First and last name and title of teacher	PhD Sandra Svilović, full professor
The course he/she teaches in the proposed study programme	Modelling of the kinetic in heterogeneous systems
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 431
E-mail address	sandra@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/zki1/172-hrvatski/djelatnici/cv/168-cv40
Year of birth	1974
Scientist ID	237630
Research or art rank, and date of last rank appointment	Scientific advisor, 12/7/2019
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 25/7/2021
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/6/2000

Name of position (professor, researcher, associate teacher, etc.)	Full professor
Field of research	Reaction engineering
Function	Head of Department of chemical engineering
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology
Place	Split
Date	23/7/2009
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)	Modelling of reaction kinetics in heterogeneous systems (postgraduate university study Chemical Engineering in Materials Development and Environmental Protection)
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)	<p>1. S. Svilović, M. Čosić, A. Bašić, Effect of radial impeller size in the presence and absence of baffles on the copper exchange on zeolite NaX, <i>Engineering Review</i>, 41, 2 (2021) 125-135, doi: 10.30765/er.1574.</p> <p>2. Bašić, S. Svilović, Effect of geometrical and operating mixing parameters on copper adsorption on zeolite NaX, <i>Desalination and Water Treatment</i>, 209 (2021) 197-203, doi: 10.5004/dwt.2020.26524.</p> <p>3. A. Bašić, M. N. Mužek, L. Kukoč Modun, S. Svilović, Competitive heavy metal removal from binary solution, <i>Kemija u industriji</i>, 69, 9-10 (2020) 465-471. doi.org/10.15255/KUI.2020.038.</p> <p>4. S. Svilović, D. Rušić, R. Stipišić, N. Kuzmanić, Process optimization for copper sorption onto synthetic zeolite NaX, <i>Bulgarian Chemical Communications</i>, 52 (2020) 189-196. doi:10.34049/bcc.52.2.4620.</p> <p>5. S. Svilović, M. N. Mužek, I. Nuić, P. Vučenović, Taguchi design of optimum process parameters for sorption of copper ions using different sorbents, <i>Water Science and Technology</i>, 80 (2019) 98-108, doi: 10.2166/wst.2019.249.</p>
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)	- IP-11-2013-8959: Impact of processing conditions on kinetics of heterogeneous systems in agitated batch reactors (HETMIX), Croatian Science Foundation - research projects (2014-2018)
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	
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	PhD Sanja Tipurić-Spužević, assistant professor
The course he/she teaches in the proposed study programme	Statistics and Chemometrics
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 443
E-mail address	stspuzevic@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/sanja-tipuri%C4%87-spu%C5%BEevi%C4%87
Year of birth	1974
Scientist ID	381402
Research or art rank, and date of last rank appointment	Research associate, 16/12/2019
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, 16/12/2019
Area and field of election into research or art rank	Natural Science, Mathematics
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	17/12/2019
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Natural Sciences
Function	/
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	The Faculty of Science and Education at the University of Mostar

Place	Mostar
Date	30/12/2014
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)	Swedish (5)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	English (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)	<ul style="list-style-type: none"> - Applied mathematics (graduate university study Food Technology and graduate university study Chemical Technology) - Probability and statistics (undergraduate university study Study of computer science, University of Dubrovnik) - Applied statistics (Undergraduate university study, The Faculty of Science and Education at the University of Mostar)
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)	B. Gotovac, S. Tipurić-Spužević , D. Marić, L. Pavlović, The calculation and application of discrete random variables in chemistry, <i>Evolventa</i> , (JAMTK) 4 (1) (2021) 47-59.
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	Graduate university study programme mathematics and physics – specialisation in education
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	PhD Renato Tomaš, associate professor
The course he/she teaches in the proposed study programme	Ionic liquids
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 448
E-mail address	rtomas@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/tomas-renato
Year of birth	1967
Scientist ID	226242
Research or art rank, and date of last rank appointment	Senior research associate, 2/10/2013
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Associate professor, 28/5/2014
Area and field of election into research or art rank	Natural Science, Chemistry
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1994
Name of position (professor, researcher, associate teacher, etc.)	Associate professor
Field of research	Solution chemistry: thermodynamic and transport properties of electrolytes, ionic liquids, calixarene chemistry.
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	29/10/2002
INFORMATION ON ADDITIONAL TRAINING	
Year	2008
Place	Zagreb
Institution	Department of Chemistry, Faculty of Science, University of Zagreb, Croatia
Field of training	Calixarene chemistry
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)	<ul style="list-style-type: none"> - Physical Chemistry 1, Physical Chemistry 2 (undergraduate university study of Chemistry) - Physical Chemistry (integrated undergraduate and graduate study of Pharmacy) - Fundamentals of Physical Chemistry (undergraduate professional study Materials Protection and Recycling) - Physical Chemistry of electrolyte solutions (graduate university study of Chemistry)

Authorship of university/faculty textbooks in the field of the course	J. Radošević, V. Sokol, R. Tomaš , P. Bošković, Laboratorijske vježbe iz fizikalne kemije, Sveučilište u Splitu, 2016.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	<p>1. R. Tomaš, Z. Kinart, A. Tot, S. Papović, T. T. Borović, M. Vraneš, Volumetric properties, conductivity and computation analysis of selected imidazolium chloride ionic liquids in ethylene glycol, <i>Journal of molecular liquids</i>, 345 (2022) 118178.</p> <p>2. R. Tomaš, Imidazolium-Based Ionic Liquids: Some Research Methods, Applications and Physico-Chemical Properties, <i>Croatica Chemica Acta</i>, 94 (2021) online first.</p> <p>3. Z. Kinart, R. Tomaš, Conductivity properties of selected aliphatic monocarboxylic acid anions in water at 298.15 K, <i>International journal of electrochemical science</i>, 15 (2020) 10007-10027.</p> <p>4. R. Tomaš, A. Tot, J. Kuhar, M. Bešter-Rogač, Interactions in aqueous solutions of imidazolium chloride ionic liquids (C_nmim)(Cl) (n = 0, 1, 2, 4, 6, 8) from volumetric properties, viscosity B-coefficients and molecular dynamic simulations, <i>Journal of molecular liquids</i>, 254 (2018) 267-271.</p> <p>5. N. Cindro, J. Požar, D. Barišić, N. Bregović, K. Pičuljan, R. Tomaš, L. Frkanec, V. Tomišić, Neutral Glycoconjugated Amide-Based Calix[4]arenes: Complexation of Alkali Metal Cations in Water, <i>Organic & biomolecular chemistry</i>, 16 (2018) 904-912.</p>
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)	<p>- Exchange on Ionic Liquids (EXIL) - COST Action CM1206: Studies of molecular interactions of some imidazolium chloride ionic liquids in water by viscometric and volumetric measurements at different temperatures, EU research project, leader (2016-2017)</p> <p>- IP-2019-04-9560: Coordination reactions of macrocyclic ligands in solution (MakroSol), research project, Croatian Science Foundation (2020-2024)</p> <p>- COST Action, CA18202: Network for Equilibria and Chemical Thermodynamics Advanced Research (NECTAR), EU research project (2021-2023)</p>
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	
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)	
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First and last name and title of teacher	PhD Marina Tranfić Bakić, assistant professor
The course he/she teaches in the proposed study programme	Supramolecular Chemistry

GENERAL INFORMATION ON COURSE TEACHER

Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 430
E-mail address	marina.tranfic-bakic@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/marina-tranfic-baki%C4%87
Year of birth	1982
Scientist ID	313145
Research or art rank, and date of last rank appointment	Research associate, 11/3/2019
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Assistant professor, 16/7/2021
Area and field of election into research or art rank	Natural Science, Chemistry

INFORMATION ON CURRENT EMPLOYMENT

Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/11/2021
Name of position (professor, researcher, associate teacher, etc.)	Assistant professor
Field of research	Supramolecular chemistry and photochemistry
Function	

INFORMATION ON EDUCATION – Highest degree earned

Degree	PhD
Institution	Department of Chemistry, Faculty of Science, University of Zagreb
Place	Zagreb, Croatia
Date	17/4/2015

INFORMATION ON ADDITIONAL TRAINING

Year	2019-2021
Place	Bologna, Italy
Institution	Center for Light-Activated nanostructures University of Bologna
Field of training	Supramolecular chemistry and photochemistry
Year	2018
Place	Salerno, Italy
Institution	Laboratory for Supramolecular Chemistry, Department of Chemistry and Biology, University of Salerno
Field of training	Supramolecular chemistry

MOTHER TONGUE AND FOREIGN LANGUAGES

Mother tongue	Croatian
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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 (4)
Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent)	Spanish (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)	-
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)	<ol style="list-style-type: none"> 1. M. Tranfić Bakić, F. Nicoli, M. Curcio, E. Paltrinieri, M. Baroncini, S. Silvi, A. Credi, Photoinduced Autonomous Non-Equilibrium Operation of a Molecular Shuttle by Combined Isomerization and Proton Transfer, <i>J. Am. Chem. Soc.</i>, submitted for publication. 2. S. Corra, L. Casimiro, M. Baroncini, J. Groppi, M. La Rosa, M. Tranfić Bakić, S. Silvi, A. Credi, Artificial supramolecular pumps powered by light, <i>Chem. Eur. J.</i>, 2021 (27) 11076-11083. DOI: 10.1002/chem.202101163. 3. F. Nicoli, E. Paltrinieri, M. Tranfić Bakić, M. Baroncini, S. Silvi, A. Credi, Binary logic operations with artificial molecular machines, <i>Coord. Chem. Rev.</i>, 2021 (428) 213589-213603. DOI: 10.1016/j.ccr.2020.213589. 4. M. Tranfić Bakić, V. Iuliano, C. Talotta, S. Geremia, N. Hickey, A. Spinella, M. De Rosa, A. Soriente, C. Gaeta, P. Neri, Threading of Conformationally Stable Calix[6]arene Wheels Substituted at the Methylene Bridges, <i>J. Org. Chem.</i>, 2019 (84) 11922-11927. DOI: 10.1021/acs.joc.9b01779. 5. M. Tranfić Bakić, D. Klarić, M. S. Espinosa, S. Kazazić, L. Frkanec, P. A. Babay, N. Galić, Syntheses of ester and amide derivatives of calix[6]arene and their complexation affinities towards La³⁺, Eu³⁺, and Yb³⁺, <i>Supramol. Chem.</i>, 2019 (31) 367-377. DOI: 10.1080/10610278.2019.1650179.
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)	<p>-IP-2019-04-9560: Coordination reactions of macrocyclic ligands in solution, research project, Croatian Science Foundation (2020 – 2024)</p> <p>- ERC Advanced grant, grant agreement No. 692981: Light Effected autonomous molecular pumps: Towards active</p>

	transporters and actuating materials, funded by the European Science Council (2016 – 2022) - IP-2014-09-7309: Development of supramolecular cation and anion receptors, research project, Croatian Science Foundation(2015 – 2019)
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	- The lecturer has accumulated extensive experience in teaching during 12 years of work at higher education institutions. - As part of her undergraduate education, the lecturer was enrolled in courses Psychology, General Pedagogy, Didactics, and Methodology of Chemistry Teaching.
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	PhD Ladislav Vrsalović, full professor
The course he/she teaches in the proposed study programme	Applied electrochemistry in material development Corrosion management
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 435
E-mail address	ladislav@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/vrsalovic-ladislav
Year of birth	1974
Scientist ID	237626
Research or art rank, and date of last rank appointment	Scientific advisor, 26/11/2013
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 9/5/2018
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/7/2000
Name of position (professor, researcher, associate teacher, etc.)	Full professor
Field of research	Corrosion processes of metals and alloys and its corrosion protection
Function	Head of Division of Chemical engineering and Technology
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology in Split

Place	Split
Date	3/4/2008
INFORMATION ON ADDITIONAL TRAINING	
Year	2004
Place	Zagreb, Croatia
Institution	Faculty of Mechanical Engineering and Naval Architecture
Field of training	Standardization (Laboratory organization according to HRN EN ISO / IEC 17025)
Year	2007
Place	Rijeka, Croatia
Institution	University of Rijeka
Field of training	The first Croatian school of synchrotron radiation
Year	2018
Place	Ljubljana, Slovenia
Institution	University of Ljubljana, Faculty of Natural Science and Engineering
Field of training	Optical and Electron Microscopy (Erasmus mobility "staff training mobility")
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)	<ul style="list-style-type: none"> - Surface protection technology (graduate university study - Chemical technology) - Corrosion and the environment (graduate university study of Chemical Technology) - Construction materials (undergraduate university study of Chemical Technology) - Construction materials and protection (undergraduate university study of Chemical Technology) - Electrodeposition (undergraduate university study of Chemical Technology) - Metal construction materials (undergraduate professional study Materials protection and recycling)
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)	<p>1. L. Vrsalović, N. Čatipović, S. Gudić, S. Kožuh, Beneficial effect of Cu content and austempering parameters on the hardness and corrosion properties of austempered ductile iron (ADI), <i>Facta Universitatis. Series: mechanical engineering</i> (2022) doi:10.22190/FUME220106018V</p> <p>2. S. S. Hanza, L. Vrsalović, L. Štic, L. Liverić, Corrosion investigation of Al-Si casting alloys in 0.6M NaCl solution, <i>Engineering Review</i>, 41 (2021) 3; 115-123. https://doi.org/10.30765/er.1577</p> <p>3. J. Krolo, S. Gudić, L. Vrsalović, B. Lela, Z. Dadić, Fatigue and corrosion behavior of solid state recycled aluminum alloy EN AW 6082, <i>Journal of materials engineering and performance</i>, 29 (2020) 4310-4321.</p>

	<p>4. L. Vrsalović, S. Gudić, L. Terzić, I. Ivanić, S. Kožuh, M. Gojić, E. E. Oguzie, Intergranular Corrosion of CuAlNi alloy in 0.5 mol dm⁻³ H₂SO₄ Solution, <i>Kemija u industriji</i>, 69(9-10) (2020) 457-464.</p> <p>5. L. Vrsalović, I. Ivanić, S. Kožuh, B. Kosec, M. Bizjak, J. Kovač, U. Gabor, M. Gojić, Influence of heat treatment on the corrosion properties of CuAlMn shape memory alloys, <i>Corrosion reviews</i>, 37 (2019), 6; 579-589.</p>
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1. I. Carev, M. Buljac, L. Vrsalović , I. Smoljko, N. Vukojević Medvidović, Educational impact of STEM students service-learning, Društveno-korisno učenje na sveučilištima u Republici Hrvatskoj - obrazovanje za okoliš i održivi razvoj, I. Carev, M. Radman, G. Medunić-Orlić, Z. Mihanović (ur.), Split: Udruga za prirodu, okoliš i održivi razvoj Sunce, 2020, 17-21.
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	<p>- IP-2014-09-3405: Designing of microstructure, and functional properties of Cu shape memory alloys (DMFP-CuSMA), scientific project, Croatian Science Foundation (2015-2019)</p> <p>- IP-2020-02-8284: Recycling of aluminium alloys in solid end semi-solid state (ALURECSS), scientific project, Croatian Science Foundation, (2021- 2025)</p>
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	<p>- Plaque of the University of Split for exceptional contribution to the University of Split for the introduction and implementation of the Socially Service Learning (June 14, 2021)</p> <p>- Bronze medal at the 17th International Exhibition of Innovations ARCA 2019 (17-19 October 2019, Zagreb) for the development of the process of obtaining wire from Cu-Al-Mn alloy with the effect of shape recollection (member of the scientific team consisting of: doc. Ivana Ivanić, PhD, Associate Professor Stjepan Kožuh, PhD, Ladislav Vrsalović, PhD and Prof. Mirko Gojić, PhD).</p> <p>- Silver medal at the 16th International Exhibition of Innovations ARCA 2018 (October 18-20, 2018, Zagreb) for the development of Cu-Al-Mn alloys with shape memory (member of the scientific team consisting of: Prof. Mirko Gojić, PhD, Associate Professor Tamara Holjevac Grgurić, PhD, Associate Professor Robert Pezer, PhD, Associate Professor Stjepan Kožuh, PhD, Ivana Ivanić, PhD from the University of Zagreb, Faculty of Metallurgy in Sisak and Prof. Ladislav Vrsalović, PhD, from the University of Split, Faculty of Chemistry and Technology in Split).</p>
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	PhD Nediljka Vukojević Medvidović, full professor
The course he/she teaches in the proposed study programme	Hybrid systems for wastewater treatment and bioenergy production
GENERAL INFORMATION ON COURSE TEACHER	
Address	Faculty of Chemistry and Technology, University of Split, R. Bošković 35, 21000 Split
Telephone number	++385 21 329 452
E-mail address	nvukojev@ktf-split.hr
Personal web page	https://www.ktf.unist.hr/index.php/kontakt-3/kontakt-djelatnici/item/vukojevic-medvidovic-nediljka
Year of birth	1976
Scientist ID	243570
Research or art rank, and date of last rank appointment	Scientific advisor, 14/9/2021
Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment	Full professor, 8/5/2018
Area and field of election into research or art rank	Technical Science, Chemical Engineering
INFORMATION ON CURRENT EMPLOYMENT	
Institution where employed	Faculty of Chemistry and Technology, University of Split
Date of employment	1/3/2001
Name of position (professor, researcher, associate teacher, etc.)	Full professor
Field of research	Scientific, teaching and professional activities related to wastewater treatment, environmental remediation and waste management
Function	
INFORMATION ON EDUCATION – Highest degree earned	
Degree	PhD
Institution	Faculty of Chemistry and Technology, University of Split
Place	Split
Date	25/5/2007
INFORMATION ON ADDITIONAL TRAINING	
Year	2006
Place	Sofia, Bulgaria
Institution	Institute of Organic Chemistry - Bulgarian Academy of Science
Field of training	Instrumental Analysis: X-ray, IR and Raman Spectroscopy Application
Year	2004
Place	Motovun, Croatia
Institution	Faculty of Chemical Engineering and Technology in Zagreb & National Institute for Chemistry in Ljubljana
Field of training	International school of ion chromatography
Year	2000
Place	Tokyo, Japan
Institution	National Environmental Training Institute in Tokyo
Field of training	Environmental monitoring, Water Quality

Year	1998
Place	Krakow, Poland
Institution	AGH University of Mining and Metallurgy
Field of training	Characterization of coal and coke
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)
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)	<ul style="list-style-type: none"> - Advanced wastewater treatment processes (postgraduate university study Chemical Engineering in Materials Development and Environmental Protection) - Process design (graduate university study of Chemical Technology) - Environmental remediation technologies (graduate university study Chemical Technology) - Engineering of advanced water treatment processes (graduate university study Chemical Technology) - Environmental Remediation Technologies (graduate university study Chemical and Environmental Technology) - Wastewater treatment (undergraduate university study of Chemical Technology) - Water protection (undergraduate university study of Chemical Technology) - Industrial wastewater (undergraduate professional study Protection and recovery of materials)
Authorship of university/faculty textbooks in the field of the course	<ul style="list-style-type: none"> - J. Perić, N. Vukojević Medvidović, I. Nuić, Inženjerstvo otpadnih voda, Priručnik za laboratorijske vježbe, Kemijsko tehnološki fakultet Sveučilišta u Splitu, 2012. - J. Perić, N. Vukojević Medvidović, Projektiranje procesa, sveučilišni udžbenik, Sveučilište u Splitu, 2020.
Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most)	<ol style="list-style-type: none"> 1. N. Vukojević Medvidović; L. Vrsalović, T. Ugrina, I. Jukić, Electrocoagulation augmented with natural zeolite - the new hybrid process for treatment of leachate from composting of biowaste, <i>Proceedings Book 19th International Foundrymen Conference "Humans - Valuable Resource for Foundry Industry Development"</i>, Dolić N.; Zovko Brodarac Z.; Brajčinović S. (ur.). Sisak: University of Zagreb, Faculty of Metallurgy, (2021), 489-498. 2. N. Vukojević Medvidović., M. Ugrina, I. Dodig, M. Marić, M. Trgo, I. Nuić, S. Slavica Matešić, Landfill leachate treatment using hybrid process with fixed zeolite bed, <i>8th Serbian-Croatian-Slovenian Symposium on Zeolites</i>, Faculty of Technology and Metallurgy, Belgrade, Serbia, (2019). 3. I. Nuić, M. Trgo, N. Vukojević Medvidović, M. Ugrina, A Mass Transfer Analysis of Competitive Binding of Pb, Cd, and Zn from Binary Systems onto a Fixed Zeolite Bed, <i>Int. J. Environ. Res. Public Health</i> 16 (2019) (3) 426-446. 4. N. Vukojević Medvidović, I. Nuić, M. Ugrina, M. Trgo, Evaluation of natural zeolite as a material for permeable reactive barrier of zinc contaminated groundwater based on column study, <i>Water, Air and Soil Pollution</i> 229: 367 (2018) 1-14.

	5. M. Ugrina, N. Vukojević Medvidović , M. Trgo, The effect of solid/liquid ratio on zinc and cadmium uptake on natural and iron-modified zeolite – batch scale design, <i>Indian Journal of Chemical Technology</i> 25 (2018) (3) 235-245.
Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most)	1. I. Carev, M. Buljac, L. Vrsalović, I. Smoljko, N. Vukojević Medvidović , Educational impact of STEM students service-learning, Društveno-korisno učenje na sveučilištima u Republici Hrvatskoj - obrazovanje za okoliš i održivi razvoj, I. Carev, M. Radman, G. Medunić-Orlić, Z. Mihanović (ur.), Split, Udruga za prirodu, okoliš i održivi razvoj Sunce, (2020), 17-21.
Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most)	<ul style="list-style-type: none"> - Development of a new hybrid process for wastewater treatment based on electrocoagulation and natural zeolite, project manager of the HAZU Foundation (2021) - Low-cost sorbents as potential materials for in situ remediation of heavy-metal contaminated groundwater, scientific-research bilateral Croatian-Serbian project (2016-2017) - Application of natural zeolite for remediation of mercury contaminated soil, scientific-research bilateral Croatian-Slovenian project (2016-2017) - IP-11-2013-4981: Natural zeolites as a reactive barrier for landfill leachate treatment (NAZELLT), research project of the Croatian Science Foundation (2014-2018)
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	<ul style="list-style-type: none"> - Recognition for the overall and individual contribution to the development strategy of the urban agglomeration of Split, University of Split, November 2017 - Plaque of the University of Split for outstanding contribution through the introduction and implementation of Socially Beneficial Learning, University of Split, June 2021.
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)	

3.4. Optimal number of students

The number of applicants is determined by the Faculty Council of FCT in accordance with the capacity and mentors available. Also, the Faculty Council of the FCT determines the acceptable minimum number of applicants for enrolment in the first year of doctoral studies. The optimal admission quota amounts to 10 to 15 applicants.

3.5. Estimate of costs per student

The amount of the tuition fee is determined by an analysis performed by the professional services of the FCT in cooperation with the Commission/Committee for Postgraduate (Doctoral) Study, and confirmed by the Faculty Council of the FCT before announcing a public call for enrolment in doctoral studies. The tuition fee covers classes, administrative costs and the costs of external members of the committee for public defense of the subject matter/topic and the defense of the doctoral dissertation. The revenue gained from tuition fees is distributed according to the Ordinance on the distribution and use of FCT's own revenues. We expect the tuition fee to amount to HRK 12,000.00 per academic year.

3.6. Plan of procedures of study programme quality assurance

The quality and success of the performance of the postgraduate doctoral study is continuously monitored by the head of the postgraduate doctoral study, who reports to the Commission for Postgraduate Studies and the Faculty Council. The quality of the studies is systematically monitored by the Quality Assurance Board of the FCT and by the Center for Quality of the University of Split.

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 Zagreb defines procedures for quality assurance, the proposer of the study programme is obliged to draw up a plan of procedures for study programme quality assurance.

Documentation on which the quality assurance system of the constituent part of the University is based:

- Quality assurance policy of the Faculty of Chemical Technology in Split
- Ordinance on the quality assurance system of the Faculty of Chemical Technology
- Quality Assurance Manual of the Faculty of Chemistry and Technology in Split
- Ordinance on the procedure of internal periodic assessment of the quality assurance system of the Faculty of Chemical Technology in Split

Description of procedures for evaluation of the quality of study programme implementation:

- For each procedure it is necessary to list and describe the evaluation method (in most cases it involves questionnaires given to students or teachers, and a self-evaluation questionnaire), name the body conducting the evaluation (constituent part, university office), the method for processing results and making information available, and the time frame necessary for carrying out the evaluation
- If the procedure is described in an attached document, name the document and the article.

Evaluation of the work of teachers and part-time teachers

Student evaluation of the quality of teaching and of coursework quality is conducted through a survey. The survey is organized and conducted by the FCT Quality Assurance Board in cooperation with the Postgraduate University Doctoral Study Committee. The survey is conducted at the end of each semester. The report on the conducted survey is presented by the

	<p>Quality Assurance Board at the thematic session of the Faculty Council.</p> <p>All procedures are carried out according to the Ordinance on the structure and role of the quality management system of the University of Split, the Ordinance on the procedure for evaluating the quality of teachers and teaching by students of the University of Split and the Ordinance on the quality improvement system of the FCT.</p>
Monitoring of grading and the harmonization of grading with the anticipated learning outcomes	<p>The procedures, rules and the criteria for student grading include: the exam taking method/ the method for taking the exams, the requirements for taking the exams, the method of evaluation through seminars, active participation in classes, exams and other obligations and the conditions for obtaining signatures. Students are introduced to the grading method, to dates of teacher-student consultation appointments, exams and quality standards for each subject by looking them up on the faculty's website and hearing about them in introductory lectures.</p>
Evaluation of availability of resources (spatial, human, IT) in the process of learning and instruction	<p>Student evaluation of the work of administrative and professional services as well as of the infrastructure related to learning and student life is conducted through an electronic survey. The survey is conducted through an online questionnaire filled out by doctoral students. The survey is organized by the Center for Quality Improvement of the University of Split, and conducted by the Quality Assurance Board at FCT. The processing of survey results is carried out by computer at the University. The survey is conducted every year, and the results of the survey are presented at the sessions of the Faculty Council and published on the website of the FCT.</p>
Availability and evaluation of student support (mentorship, tutorship, advising)	<p>Students are provided with counseling through individual consultations with mentor 1 and mentor 2. The evaluation of the work of mentor 1 / mentor 2 is carried out according to the Regulations on postgraduate university (doctoral) studies of the FCT.</p>
Monitoring of student pass/fail rate by course and study programme as a whole	<p>Student's mentor 1 / mentor 2 is tasked with monitoring his or her progress throughout the academic year by taking note of the student's pass/fail rate by course and the student's GPA/academic success in the study programme as a whole. The analysis of the success of studying at the postgraduate study is prepared by the head of studies, and the report is presented by the Quality Assurance Board of the FCT at the thematic session of the Faculty Council.</p>
Student satisfaction with the programme as a whole	<p>The evaluation of the quality of the study program, of the teaching methods applied, of the work of mentors, and by extension overall student satisfaction with the program as a whole, is performed by means of a survey that provides</p>

	insight into the perceived overall quality level of the studies and is conducted by the Center for Quality Improvement of the University of Split.
Procedures for obtaining feedback from third/external parties (alums, employers, labor market and other relevant organizations)	Former students are contacted in order to assess the quality of qualifications and competences they received during their studies and how those meet the requirements of their profession. Selected employers can be contacted as well in order to assess their satisfaction with students which have been studying at this study programme. Regular exchange of information at conferences organized by the ALUMNI of the Faculty (AMACTFS).
Evaluation of student practical education (where this applies)	Practical education of students is not a mandatory part of the program.
Other evaluation procedures carried out by the proposer	Formal and informal counseling with other colleagues in the same profession and doing scientific research at the Faculty level and beyond
Description of procedures for informing third parties/external parties on the study programme (students, employers, alums)	Informing third parties/external participants about the study programme is done: - by publishing pertinent information on the official web pages of the FCT, available at: https://www.ktf.unist.hr - by publishing in print and electronic media.