SVEUČILIŠTE U MOSTARU
FAKULTET PRIRODOSLOVNO-MATEMATIČKIH
I ODGOJNIH ZNANOSTI
ZNANSTVENO-NASTAVNO VIJEĆE
Ur. broj: 04/I-2080/25
Mostar, 11. 9. 2025.

Na temelju čl. 60. Zakona o visokom obrazovanju u HNŽ-u, (Narodne novine HNŽ br. 4/2012), čl. 61. Statuta Sveučilišta u Mostaru (ur. broj: 01-1685/20 od 26.2.2020.) i odluke Senata ur. broj: 01-3486/23 od 21. lipnja 2023. godine Znanstveno-nastavno vijeće Fakulteta prirodoslovno-matematičkih i odgojnih znanosti Sveučilišta u Mostaru na 179. sjednici održanoj 11. rujna 2025. godine, donijelo je

O D L U K U
o usvajanju nastavnih programa za predmete koji se izvode na engleskom jeziku na Fakultetu prirodoslovno-matematičkih i odgojnih znanosti Sveučilišta u Mostaru u akademskoj 2025./2026. godini

I.

Usvajaju se izvedbeni nastavni programi za predmete koji se izvode na engleskom jeziku na Fakultetu prirodoslovno-matematičkih i odgojnih znanosti Sveučilišta u Mostaru u akademskoj 2024./2025. godini kako slijedi:

1. Tjelesna zdravstvena kultura 1, 2. Tjelesna zdravstvena kultura 2, 3. Tjelesna zdravstvena kultura 3, 4. Tjelesna zdravstvena kultura 4, 5. Klavir-obligatno 1, 6. Klavir-obligatno 2, 7. Glazbe svijeta 1, 8. Glazbe svijeta 2, 9. Praktikum iz analitičke kemije 1, 10. Praktikum iz organske kemije 1, 11. Praktikum iz analitičke kemije 2, 12. Praktikum iz organske kemije 2, 12. Viši praktikum iz analitičke kemije i 13. Glazbena kultura.

II.

Popis predmeta iz čl. I. čine sastavni dio ove Odluke.

III.

Odluka stupa na snagu danom donošenja

SVEUČILIŠTE U MOSTARU FAKULTET PRIRODOSLOVNO-MATEMATIČKIH I ODGOJNIH ZNANOSTI

dekan

prof. dr. sc. Marin Ćorluka

Dostaviti:
- pročelnicima Studija
- studentskoj službi x2
- službi za pravne i kadrovske poslove
- pismohrani

FPMOZ – AKADEMSKA 2025./2026. GODINE

Popis predmeta po studijskim programima koji se mogu izvoditi na engleskom jeziku:

Sve studijske grupe FPMOZ-a slušaju predmete Tjelesna i zdravstvena kultura 1-4				
Redni broj	Predmet na hrvatskom	Predmet na engleskom	Broj sati p+v+s	ECTS
1	Tjelesna i zdravstvena kultura 1	Physical Education 1	0+30+0	1
2	Tjelesna i zdravstvena kultura 2	Physical Education 2	0+30+0	1
3	Tjelesna i zdravstvena kultura 3	Physical Education 3	0+30+0	1
4	Tjelesna i zdravstvena kultura 4	Physical Education 4	0+30+0	1
(Preddiplomski) GLAZBENA PEDAGOGIJA – (Bachelor) MUSIC PEDAGOGY				
5	Klavir-obligatno 1	Piano-required 1	5+10+0	2
6	Klavir-obligatno 2	Piano-required 2	5+10+0	2
(Diplomski) GLAZBENA PEDAGOGIJA – (Master) MUSIC PEDAGOGY				
7	Glazbe svijeta 1	World Music 1	30+15+0	2
8	Glazbe svijeta 2	World Music 2	30+15+0	2
(Preddiplomski) KEMIJA – (Bachelor) CHEMISTRY				
9	Praktikum iz analitičke kemije 1	Analytical chemistry laboratory 1	0+60+0	3
10	Praktikum iz organske kemije 1	Organic chemistry laboratory 1	0+60+0	3
11	Praktikum iz analitičke kemije 2	Analytical chemistry laboratory 2	0+60+0	4
12	Praktikum iz organske kemije 2	Organic chemistry laboratory 2	0+60+0	4
(Diplomski) KEMIJA – (Master) CHEMISTRY				
13	Viši praktikum iz analitičke kemije	Higher laboratory in analytical chemistry	0+60+0	3
(Preddiplomski) RAZREDNA NASTAVA – (Bachelor) CLASSROOM TEACHING				
14	Glazbena kultura	Music Culture	30+0+0	3

FPMOZ – CURRICULUMS (SYLLABUS)

All study groups of FPMOZ take subjects Physical and Health Culture 1-4

Study programme	FPMOZ					
Cycle	INTEGRATED	Type	UNIVERSITY			
Study track		Module				
Year of study	1.	Semester	I.			
Course title	**PHYSICAL EDUCATION 1**	Course code				
ECTS	1	Status	OBLIGATORY			
Teaching hours			Lectures	Exercises	Seminars	Practice
			0	30	0	0
Course objectives	The aim of the Physical Education course is: - Expand students' knowledge about the impact of kinesiology activities on the level of health. - To expand students' knowledge about the general process of exercise as well as the consequences of the effects of these processes on the human body with special reference to the preservation of health achieved through kinesiology processes. - To expand students' knowledge about ways to solve problems related to exercise processes. - Train students for independent work and expand students' knowledge about the importance of exercise in everyday life.					
Course learning outcomes	Learning outcome (LO) Student:			Course learning outcome code	LO code at the study program level	
	Applies warm-up exercises for a particular kinesiological activity.					
	Independently analyzes and becomes aware of the importance of exercise in everyday life.					
	It assesses the need and importance of daily exercise in order to preserve health and improve the quality of life.					
	It creates an active break (an active break between studying and during free time).					
	It presents tolerance, work habits and self-discipline.					
Prerequisites for the course enrolment	In accordance with the Rulebook on the Integrated Studies at the School of Medicine University of Mostar					
Course content	Week / shift	Topic				
	1.	Introductory meeting and familiarization of students with obligations				
	2.	Structure of the Physical Education class				
	3.	General preparatory exercises and their application				
	4.	Football - structure of football training (content and organization)				
	5.	Football – a modified form of indoor and outdoor football				
	6.	Handball - basics of handball game and improvement of new elements				
	7.	Volleyball - the basics of the volleyball game and improvement of volleyball training structures				
	8.	Volleyball - service, service reception, lifting, throwing, block and defense in the field				

	9.	Basketball - structure of basketball training (content and organization)
	10.	Basketball – a modified mode of basketball
	11.	Tennis – forehand shot under the hand, forehand shot above the head
	12.	Tennis - high serve and short serve and movements on the court in the direction back and forth
	13.	Walking tour - organization of excursions in nature
	14.	Repetition and improvement of general preparatory exercises
	15.	Repetition of the learned content as chosen by the student
Language	English	
E-learning	Sumarum, possibility of establishing online classes via the platform: Google meet or Zoom.	
Teaching methods	- teaching methods - presentation - practical methods (exercises in the hall, exercises in nature or outdoors, exercises in the pool) - interactive methods (conversation and agreement about the class and exercises, dialogue, communication about the course and mutual, creative ideas about the contents of the exercises)	

Types of assessment (indicate - **Bold**)							
Type of pre-examination obligation					Type of exam		
midterm	**seminar paper**	essay/report	practical/project task	other	written exam	oral exam	**practical**

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	IU-MFMSE202-1 IU-MFMSE202-2 IU-MFMSE202-3 IU-MFMSE202-4 IU-MFMSE202-5	25	0.5	100 %
In total		25	0.5	100 %

Method of calculating the final grade

Attending classes and preparing for the practical assignment/exam:

Class attendance and class activities:
- irregular arrivals = 0% grade
- more than 80% attendance at exercises = 100% descriptive grade

Exceptionally for students who are exempted from exercises due to health or sports (top athletes) exemptions, students are required to write a seminar paper.

Writing a seminar paper:
- the paper is not written = 0% grade.
- The work fully meets the formal and content criteria and is grammatically and spelling correct = 100% grade

According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5)

An exception is the subject of Physical Education, where a descriptive grade of "passed" is included in accordance with regular attendance at exercises.

Literature	Title	Edition	Language	Type of literature

(indicate)	(title, author, year)	own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Primjena opće pripremnih vježbi, Kvesić I., Brekalo M., Lovrić F., 2023.		X	X				X			
	Educating the Student Body : Taking Physical Activity and Physical Education to School, Harold W. Kohl III and Heather D. Cook, 2013.		X		X			X			
Additional											

Additional course information

- The student is obliged to regularly attend exercises from the course.
- The condition for entering the final descriptive grade is met with the attendance of at least 80% of the classes held.
- Exceptional efforts at exercises will be rewarded with additional (accumulation) pluses. The maximum number of accumulation points is 2 plus in the record.
- Unexcused absences must be justified with our student doctor and with a request to the course instructor.
- Exempted students are required to write a seminar paper

Study programme	FPMOZ					
Cycle	INTEGRATED	Type	UNIVERSITY/ACADEMIC			
Study track		Module				
Year of study	1.	Semester	II.			
Course title	**PHYSICAL EDUCATION 2**	Course code				
ECTS	1	Status	OBLIGATORY			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			0	30	0	0

Course objectives	The aim of the Physical Education course is: - Expand students' knowledge about the impact of kinesiology activities on the level of health. - To expand students' knowledge about the general process of exercise as well as the consequences of the effects of these processes on the human body with special reference to the preservation of health achieved through kinesiology processes. - To expand students' knowledge about ways to solve problems related to exercise processes. - Train students for independent work and expand students' knowledge about the importance of exercise in everyday life.		
Course learning outcomes	Learning outcome (LO) Student:	Course learning outcome code	LO code at the study program level
	Applies warm-up exercises for a particular kinesiological activity.		
	Independently analyzes and becomes aware of the importance of exercise in everyday life.		
	It assesses the need and importance of daily exercise in order to preserve health and improve the quality of life.		
	It creates an active break (an active break between studying and during free time).		

	It presents tolerance, work habits and self-discipline.		

Prerequisites for the course enrolment	In accordance with the Rulebook on the Integrated Studies at the School of Medicine University of Mostar

Course content	Week / shift	Topic
	1.	Introductory lecture and familiarization of students with obligations
	2.	Structure of the Physical Education class
	3.	General preparatory exercises and their application
	4.	Football – futsal 4+1
	5.	Soccer – small soccer 5+1
	6.	Handball - jump shot, play in defense, play in attack
	7.	Volleyball – organization of the game
	8.	Volleyball - game
	9.	Basketball – basketball 3 vs 3
	10.	Basketball - game
	11.	Tennis – organization of the game in pairs
	12.	Tennis – 1 on 1 game
	13.	Walking tour - organization of outdoor excursions
	14.	Repetition and improvement of general preparatory exercises
	15.	Repetition of the learned content as chosen by the students

Language	English
E-learning	Sumarum, The possibility of establishing online classes via the platform: Google meet or Zoom.
Teaching methods	- teaching methods (lecture, lecture and presentation) - practical methods (exercises in the hall, exercises in nature or outdoors, exercises in the pool) - interactive methods (conversation and agreement about the class and exercises, dialogue, communication about the course and mutual, creative ideas about the contents of the exercises)

Types of assessment (indicate - **Bold**)

Type of pre-examination obligation					Type of exam		
midterm	**seminar paper**	essay/report	practical/project task	**other**	written exam	oral exam	**practical**

Allocation of ECTS credits and share in the grade

Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	LO-MFMSE404-1,2,3,4,5	25	0.5	100 %
In total		25	0.5	100 %

Method of calculating the final grade

Attending classes and preparing for the practical assignment/exam:

Class attendance and class activities:

- irregular arrivals = 0% grade
- more than 80% attendance at exercises = 100% descriptive grade

Exceptionally for students who are exempted from exercises due to health or sports (top athletes) exemptions, students are required to write a seminar paper.

Writing a seminar paper:

- the paper is not written = 0% grade.
- The work fully meets the formal and content criteria and is grammatically and spelling correct = 100% grade

According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5)

An exception is the subject of Physical Education, where a descriptive grade of "done" is included in accordance with regular attendance at exercises.

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Primjena opće pripremnih vježbi, Kvesić I., Brekalo M., Lovrić F., 2023.										
	Metodika tjelesne i zdravstvene kulture, Kvesić, M., Mostar, 2008.	X		X				X			
	Tjelesno vježbanje i zdravlje, Marjeta Mišigoj-Duraković I suradnici, Školska knjiga, Zagreb, 2018.		X	X	X			X			
	Metodika tjelesne i zdravstvene kulture, Kvesić, M., Mostar, 2013.	X		X						X	
Additional	Programiranje u tjelesnoj i zdravstvenoj kulturi, Findak, V., Zagreb, 1997.		X	X				X			
	Sat tjelesne i zdravstvene kulture u primarnoj edukaciji, Findak, V., I. Prskalo, J. Babin, Učiteljski fakultet Sveučilišta u Zagrebu, Zagreb, 2011.		X	X	X						X

Additional course information

- The student is obliged to regularly attend exercises from the course.
- The condition for entering the final descriptive grade is met with the attendance of at least 80% of the classes held.
- Exceptional efforts at exercises will be rewarded with additional (accumulation) pluses. The maximum number of accumulation points is 2 plus in the record.
- Unexcused absences must be justified with our student doctor and with a request to the course instructor.
- Part-time students are required to write a seminar paper

Study programme	FPMOZ					
Cycle	INTEGRATED	Type	UNIVERSITY			
Study track		Module				
Year of study	2.	Semester	III.			
Course title	**PHYSICAL EDUCATION 3**	Course code				
ECTS	1	Status	OBLIGATORY			
Teaching hours			Lectures	Exercises	Seminars	Practice
			0	30	0	0

Course objectives	The aim of the Physical Education course is: - Expand students' knowledge about the impact of kinesiology activities on the level of health. - To expand students' knowledge about the general process of exercise as well as the consequences of the effects of these processes on the human body with special reference to the preservation of health achieved through kinesiology processes. - To expand students' knowledge about ways to solve problems related to exercise processes. - Train students for independent work and expand students' knowledge about the importance of exercise in everyday life.		
Course learning outcomes	Learning outcome (LO) Student:	Course learning outcome code	LO code at the study program level
	Applies warm-up exercises for a particular kinesiological activity.		
	Independently analyzes and becomes aware of the importance of exercise in everyday life.		
	It assesses the need and importance of daily exercise in order to preserve health and improve the quality of life.		
	It creates an active break (an active break between studying and during free time).		
	It presents tolerance, work habits and self-discipline.		
Prerequisites for the course enrolment	In accordance with the Rulebook on the Integrated Studies at the School of Medicine University of Mostar		

Course content	Week / shift	Topic
	1.	Introductory meeting and familiarization of students with obligations
	2.	Structure of the Physical Education class
	3.	General preparatory exercises and their application
	4.	Football - structure of football training (content and organization)
	5.	Football – a modified form of indoor and outdoor football
	6.	Handball - basics of handball game and improvement of new elements
	7.	Volleyball - the basics of the volleyball game and improvement of volleyball training structures
	8.	Volleyball - service, service reception, lifting, throwing, block and defense in the field
	9.	Basketball - structure of basketball training (content and organization)
	10.	Basketball – a modified mode of basketball
	11.	Tennis – forehand shot under the hand, forehand shot above the head
	12.	Tennis - high serve and short serve and movements on the court in the direction back and forth
	13.	Walking tour - organization of excursions in nature

	14.	Repetition and improvement of general preparatory exercises
	15.	Repetition of the learned content as chosen by the student
Language	English	
E-learning	Sumarum, possibility of establishing online classes via the platform: Google meet or Zoom.	
Teaching methods	- teaching methods - presentation - practical methods (exercises in the hall, exercises in nature or outdoors, exercises in the pool) - interactive methods (conversation and agreement about the class and exercises, dialogue, communication about the course and mutual, creative ideas about the contents of the exercises)	

Types of assessment (indicate - **Bold**)							
Type of pre-examination obligation					Type of exam		
midterm	**seminar paper**	essay/report	practical/project task	other	written exam	oral exam	**practical**

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	IU-MFMSE202-1 IU-MFMSE202-2 IU-MFMSE202-3 IU-MFMSE202-4 IU-MFMSE202-5	25	0.5	100 %
In total		25	0.5	100 %

Method of calculating the final grade

Attending classes and preparing for the practical assignment/exam:

Class attendance and class activities:
- irregular arrivals = 0% grade
- more than 80% attendance at exercises = 100% descriptive grade

Exceptionally for students who are exempted from exercises due to health or sports (top athletes) exemptions, students are required to write a seminar paper.

Writing a seminar paper:
- the paper is not written = 0% grade.
- The work fully meets the formal and content criteria and is grammatically and spelling correct = 100% grade

According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5)

An exception is the subject of Physical Education, where a descriptive grade of "passed" is included in accordance with regular attendance at exercises.

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Primjena opće pripremnih vježbi, Kvesić I., Brekalo M., Lovrić F., 2023.		X	X				X			

	Educating the Student Body : Taking Physical Activity and Physical Education to School, Harold W. Kohl III and Heather D. Cook, 2013.		X		X			X			
Additional											

Additional course information
- The student is obliged to regularly attend exercises from the course. - The condition for entering the final descriptive grade is met with the attendance of at least 80% of the classes held. - Exceptional efforts at exercises will be rewarded with additional (accumulation) pluses. The maximum number of accumulation points is 2 plus in the record. - Unexcused absences must be justified with our student doctor and with a request to the course instructor. - Exempted students are required to write a seminar paper

Study programme	FPMOZ					
Cycle	INTEGRATED	Type	UNIVERSITY/ACADEMIC			
Study track		Module				
Year of study	2.	Semester	IV.			
Course title	**PHYSICAL EDUCATION 4**	Course code				
ECTS	1	Status	OBLIGATORY			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			0	30	0	0

Course objectives	The aim of the Physical Education course is: - Expand students' knowledge about the impact of kinesiology activities on the level of health. - To expand students' knowledge about the general process of exercise as well as the consequences of the effects of these processes on the human body with special reference to the preservation of health achieved through kinesiology processes. - To expand students' knowledge about ways to solve problems related to exercise processes. - Train students for independent work and expand students' knowledge about the importance of exercise in everyday life.		
Course learning outcomes	Learning outcome (LO) Student:	Course learning outcome code	LO code at the study program level
	Applies warm-up exercises for a particular kinesiological activity.		
	Independently analyzes and becomes aware of the importance of exercise in everyday life.		
	It assesses the need and importance of daily exercise in order to preserve health and improve the quality of life.		
	It creates an active break (an active break between studying and during free time).		
	It presents tolerance, work habits and self-discipline.		
Prerequisites for the course enrolment	In accordance with the Rulebook on the Integrated Studies at the School of Medicine University of Mostar		

Course content	Week / shift	Topic
	1.	Introductory lecture and familiarization of students with obligations
	2.	Structure of the Physical Education class
	3.	General preparatory exercises and their application
	4.	Football – futsal 4+1
	5.	Soccer – small soccer 5+1
	6.	Handball - jump shot, play in defense, play in attack
	7.	Volleyball – organization of the game
	8.	Volleyball - game
	9.	Basketball – basketball 3 vs 3
	10.	Basketball - game
	11.	Tennis – organization of the game in pairs
	12.	Tennis – 1 on 1 game
	13.	Walking tour - organization of outdoor excursions
	14.	Repetition and improvement of general preparatory exercises
	15.	Repetition of the learned content as chosen by the students
Language	English	
E-learning	Sumarum, The possibility of establishing online classes via the platform: Google meet or Zoom.	
Teaching methods	- teaching methods (lecture, lecture and presentation) - practical methods (exercises in the hall, exercises in nature or outdoors, exercises in the pool) - interactive methods (conversation and agreement about the class and exercises, dialogue, communication about the course and mutual, creative ideas about the contents of the exercises)	

Types of assessment (indicate - **Bold**)							
Type of pre-examination obligation					Type of exam		
midterm	**seminar paper**	essay/report	practical/project task	**other**	written exam	oral exam	**practical**

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	LO-MFMSE404-1,2,3,4,5	25	0.5	100 %
In total		25	0.5	100 %

Method of calculating the final grade

Attending classes and preparing for the practical assignment/exam:

Class attendance and class activities:

- irregular arrivals = 0% grade
- more than 80% attendance at exercises = 100% descriptive grade

Exceptionally for students who are exempted from exercises due to health or sports (top athletes) exemptions, students are required to write a seminar paper.

Writing a seminar paper:

- the paper is not written = 0% grade.
- The work fully meets the formal and content criteria and is grammatically and spelling correct = 100% grade

According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)

91 – 100% excellent (5)

An exception is the subject of Physical Education, where a descriptive grade of "done" is included in accordance with regular attendance at exercises.

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Primjena opće pripremnih vježbi, Kvesić I., Brekalo M., Lovrić F., 2023.										
	Metodika tjelesne i zdravstvene kulture, Kvesić, M., Mostar, 2008.	X		X				X			
	Tjelesno vježbanje i zdravlje, Marjeta Mišigoj-Duraković I suradnici, Školska knjiga, Zagreb, 2018.		X	X	X			X			
	Metodika tjelesne i zdravstvene kulture, Kvesić, M., Mostar, 2013.	X		X						X	
Additional	Programiranje u tjelesnoj i zdravstvenoj kulturi, Findak, V., Zagreb, 1997.		X	X				X			
	Sat tjelesne i zdravstvene kulture u primarnoj edukaciji, Findak, V., I. Prskalo, J. Babin, Učiteljski fakultet Sveučilišta u Zagrebu, Zagreb, 2011.		X	X	X						X

Additional course information

- The student is obliged to regularly attend exercises from the course.
- The condition for entering the final descriptive grade is met with the attendance of at least 80% of the classes held.
- Exceptional efforts at exercises will be rewarded with additional (accumulation) pluses. The maximum number of accumulation points is 2 plus in the record.
- Unexcused absences must be justified with our student doctor and with a request to the course instructor.
- Part-time students are required to write a seminar paper

MUSIC PEDAGOGY – Undergraduate Study

Study programme	MUSIC PEDAGOGY					
Cycle	1.	Type	University			
Study track		Module				
Year of study	1.	Semester	1.			
Course title	**PIANO-REQUIRED 1**	Course code	FPMOZGB105			
ECTS	2	Status	Obligatory			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			5	10	0	0
Course objectives	- expand knowledge with different literature from the subject content - expand knowledge about the technique of playing the piano and the skill of interpreting given works - train the student to practice independently, and master the instrument and interpretation					

Course learning outcomes	Learning outcome	Course learning outcome code	Learning outcome goal at the study programme level
	He reads from the sheet and plays the written sheet music correctly	IU-FPMOZGB105-1	IU-FPMOZGPB-4
	He interprets decorations in works of different stylistic eras	IU-FPMOZGB105-2	IU-FPMOZGPB-4
	Leads voices in polyphonic works	IU-FPMOZGB105-3	IU-FPMOZGPB-6
	Reproduces own playing competences, with independence and independence in playing left and right hand	IU-FPMOZGB105-4	IU-FPMOZGPB-4

Prerequisites for the course enrolment		
Course content	Week / shift	Topic
	1.-15.	Selection of programs according to the student's level of knowledge and affinities. Acquaintance with literature. Text processing. Phrasing, articulation, exact fingering, logic of the musical fabric. Work on technical tasks. Dynamics, tone shaping (still separate). Playing compositions in their entirety. Work on tone quality, tone shaping.
Language	English language	
E-learning	/	
Teaching methods	Teaching methods (lecture, presentation, demonstration)	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	essay/report	practical/project task	other	written exam	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	/	15	0.5	20%

Practical task	IU-FPMOZGB105-1-4	15	0.5	30%
Final practical exam	IU-FPMOZGB105-1-4	30	1	50%
In total		60	2	100%

Method of calculating the final grade

Class attendance is evaluated as follows:
- does not participate in teaching activities = 0% grade
- participates in teaching activities, but does not notice omissions and mistakes in playing (rhythm, melody, meter, musical phrase, tone articulation) = 11% of the grade
- participates in teaching activities, notices partial mistakes and omissions in playing, difficult to correct them = 14%
grades
- participates in the lesson, the goal of the lesson is achieved, but when playing he does not really notice all the essential features of the piece of music (the sense of the musical phrase and tone articulation is missing) = 17% of the grade
- very actively participates in teaching activities, excellently notices all the features of a piece of music (rhythm, melody, meter, musical phrase, tone articulation), the mistakes of others in playing, and suggests excellent solutions for Avoiding mistakes = 20% of the grade
The practical task (each exercise individually) is graded as follows:
- the exercise has been played, but it does not meet the given criteria (some parts are not played with articulation, rhythm and metric are not in harmony, it is not complete, there is no feeling for musical phrases, and there are melorhythmic errors) = 16.5% of the grade
- the piece is played not as a complete work, interrupted, only the rhythm and melody are satisfied, not the metric, without feeling for the musical phrase and the articulation of the tone is not completely satisfied = 21% of the grade
- the composition is played, the piece is heard as a whole, it is not interrupted, the rhythm, melody, metric, musical phrase is clearly felt, but certain omissions were made (some phrases did not satisfy the tone articulation) = 25.5% of the grade
- the composition is played in its entirety as a complete work, formally and substantively, without any mistakes, while playing it meets the given criteria of rhythm, meter, melody, feeling of the musical phrase and pitch articulation = 30% of the grade
The final practical exam is graded as follows:
less than 55% correct, i.e. by playing the main components of the piece of music (rhythm, meter, melody, musical phrase, tone articulation) = 0% grade
from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade
from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Literature	Title	Edition	Language	Type of literature

(indicate)	(title, author, year)	own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	K. Czerny: Etude op. 849 i 299;		x			x					x
	Polyphonic works: J.S. Bach 12 Little Preludes BWV 924 – 930, 939 – 942 and 999		x			x					x
	Sonatas: M. Clementi, F. J. Haydn, F. Kuhlau, Playel, etc.		x			x					x
Additional	Cramer-Bulow: Etudes I. and II. St.		x			x					x
	J. S. Bach: 6 Little Preludes BWV 933 – 938, Two-part Inventions BWV 772-786		x			x					x
	W. A. Mozart: Vienna Sonatas and Sonatas		x								x
Additional course information											

Study programme	MUSIC PEDAGOGY				
Cycle	1.	Type	University		
Study track		Module			
Year of study	1.	Semester	2.		
Course title	**PIANO-REQUIRED 2**	Course code	FPMOZGB205		
ECTS	2	Status	Obligatory		
Teaching hours		Lectures	Tutorials	Seminars	Practice
		5	10	0	0
Course objectives	- expand knowledge with different literature from the subject content - expand knowledge about the technique of playing the piano and the skill of interpreting given works - train the student to practice independently, and master the instrument and interpretation				

Course learning outcomes	Learning outcome	Course learning outcome code	Learning outcome goal at the study programme level
	He reads from the sheet and plays the written sheet music correctly	IU-FPMOZGB205-1	IU-FPMOZGPB-4
	He interprets decorations in works of different stylistic eras	IU-FPMOZGB205-2	IU-FPMOZGPB-4
	Leads voices in polyphonic works	IU-FPMOZGB205-3	IU-FPMOZGPB-6
	Reproduces own playing competences, with independence and independence in playing left and right hand	IU-FPMOZGB205-4	IU-FPMOZGPB-4

Prerequisites for the course enrolment		
	Week / shift	Topic

Course content	1.-15.	Selection of programs according to the student's level of knowledge and affinities. Acquaintance with literature. Text processing. Phrasing, articulation, exact fingering, logic of the musical fabric. Work on technical tasks. Dynamics, tone shaping (still separate). Playing compositions in their entirety. Work on tone quality, tone shaping.
Language	English language	
E-learning	/	
Teaching methods	Teaching methods (lecture, presentation, demonstration)	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	essay/report	practical/project task	other	written exam	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	/	15	0.5	20%
Practical task	IU-FPMOZGB205-1-4	15	0.5	30%
Final practical exam	IU-FPMOZGB205-1-4	30	1	50%
In total		60	2	100%

Method of calculating the final grade

Class attendance is evaluated as follows:
- does not participate in teaching activities = 0% grade
- participates in teaching activities, but does not notice omissions and mistakes in playing (rhythm, melody, meter, musical phrase, tone articulation) = 11% of the grade
- participates in teaching activities, notices partial mistakes and omissions in playing, difficult to correct them = 14%

grades
- participates in the lesson, the goal of the lesson is achieved, but when playing he does not really notice all the essential features of the piece of music (the sense of the musical phrase and tone articulation is missing) = 17% of the grade
- very actively participates in teaching activities, excellently notices all the features of a piece of music (rhythm, melody, meter, musical phrase, tone articulation), the mistakes of others in playing, and suggests excellent solutions for Avoiding mistakes = 20% of the grade

The practical task (each exercise individually) is graded as follows:
- the exercise has been played, but it does not meet the given criteria (some parts are not played with articulation, rhythm and metric are not in harmony, it is not complete, there is no feeling for musical phrases, and there are melorhythmic errors) = 16.5% of the grade
- the piece is played not as a complete work, interrupted, only the rhythm and melody are satisfied, not the metric, without feeling for the musical phrase and the articulation of the tone is not completely satisfied = 21% of the grade
- the composition is played, the piece is heard as a whole, it is not interrupted, the rhythm, melody, metric, musical phrase is clearly felt, but certain omissions were made (some phrases did not satisfy the tone articulation) = 25.5% of the grade
- the composition is played in its entirety as a complete work, formally and substantively, without any mistakes, while playing it meets the given criteria of rhythm, meter, melody, feeling of the musical phrase and pitch articulation = 30% of the grade

The final practical exam is graded as follows:
less than 55% correct, i.e. by playing the main components of the piece of music (rhythm, meter, melody, musical phrase, tone articulation) = 0% grade

from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade
from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	K. Czerny: Etude op. 849 i 299;		x			x					x
	Polyphonic works: J.S. Bach 12 Little Preludes BWV 924 – 930, 939 – 942 and 999		x			x					x
	Sonatas: M. Clementi, F. J. Haydn, F. Kuhlau, Playel, etc.		x			x					x
Additional	Cramer-Bulow: Etudes I. and II. St.		x			x					x
	J. S. Bach: 6 Little Preludes BWV 933 – 938, Two-part Inventions BWV 772-786		x			x					x
	W. A. Mozart: Vienna Sonatas and Sonatas		x			x					x
Additional course information											

MUSIC PEDAGOGY – Graduate Study

Study programme	MUSIC PEDAGOGY					
Cycle	2.	Type	University			
Study track	1) Musical culture and ethnomusicology	Module				
Year of study	1.	Semester	1.			
Course title	**WORLD MUSIC 1**	Course code	FPMOZGPEM103			
ECTS	2	Status	Obligatory			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			30	15	0	0
Course objectives	- to expand students' knowledge about the way of life of traditional music (in the world) in modern times - to expand students' knowledge of applied ethnomusicological work					

Course learning outcomes	Learning outcome	Course learning outcome code	Learning outcome goal at the study programme level
	It applies contemporary transformations of traditional music with respect to its key determinants (narrower musical characteristics, approaches to music making, ways and styles of performance, contexts of music making)	IU-FPMOZGPEM103-1	IU-FPMOZGPETM-1
	It explains the economic, cultural, ideological, educational and legal factors of the contemporary music scene, especially the factors that contribute to the preservation and/or revival of traditional music	IU-FPMOZGPEM103-2	IU-FPMOZGPGKM-2 IU-FPMOZGPETM-4
	Analyzes the art of breaking down musical processes on the example of certain Croatian, European and non-European genres of traditional, neo-traditional, ethnic music and world music	IU-FPMOZGPEM103-3	IU-FPMOZGPM-3
	It applies knowledge about the achievements and controversies of applied ethnomusicology	IU-FPMOZGPEM103-4	IU-FPMOZGPETM-3

Prerequisites for the course enrolment		
	Week / shift	Topic

Course content	1. – 15.	Introductory lecture - concept of world music, theoretical framework; historical development Roma music (history, community, family, religion, flag, anthem, language, traditions, customs, elements of culture [music, dance, religion, myths], costume, repertoire); Oceania: Australia, Papua New Guinea, Hawaii, Caribbean South Asia – Sri Lanka: India, Pakistan Southeast Asia: Vietnam, Thailand, Laos, Northeast Thailand, Indonesia (Java and Bali) East Asia: China, Mongolia; East Asia: Korea, Japan, Tibet Middle East: Islam and the Arab world, Iran, Egypt The Middle East: Sufism and Judaism Sub-Saharan Africa: Ghana, Nigeria, Central America, Zimbabwe Sub-Saharan Africa: Uganda, Senegal, The Republic of South Africa; Caribbean: Cuba, The Dominic Republic, Haiti, Jamaica, Trinidad and Tobago, The Bahamas South America and Mexico: The Amazon Rainforest, Peru South America and Mexico: Argentina, Brazil, Mexico Canada and the United States
Language	English language	
E-learning	Sumarum	
Teaching methods	Monological (analytical and synthetic interpretation, proof, reference), dialogic (heuristic conversation, discussion method, directed conversation), demonstration method (visual, auditory), research methods (project, case analysis, interview, survey, questionnaire, field work, storm of ideas), participatory and interactive methods (free and guided conversation, dialogue, discussion, debate, negotiation, mediation).	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	essay/report	practical/project task	other	written exam	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes and preparing for final exams	/	45	1	0%
Colloquium/final written exam	IU-FPMOZGPEM103-1 IU-FPMOZGPEM103-3	10	0.3	50%
Final oral exam	IU-FPMOZGPEM103-2 IU-FPMOZGPEM103-4	5	0.2	50%
In total		60	2	100%

Method of calculating the final grade

The colloquium/final written exam is graded as follows (carries 50% of the total grade):
less than 55% correct answers = 0% grade
from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade
from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
The final oral exam is graded as follows (carries 50% of the total grade):
less than 55% correct answers = 0% grade
from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade

from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Miller, Terry E.; Shahriari, Andrew (2017) *World Music – A Global Yourney*. Izdanje 4. New York and London: Taylor&Francis.		x		x			x			
	Selected articles		x		x				x		
Additional	Selected articles		x		x				x		
Additional course information		The course includes examples from music literature - world music - which students listen to, recognize/distinguish, compare, and analyze.									

Study programme	MUSIC PEDAGOGY					
Cycle	2.	Type	University			
Study track	1) Musical culture and ethnomusicology	Module				
Year of study	1.	Semester	2.			
Course title	**WORLD MUSIC 2**	Course code	FPMOZGPEM203			
ECTS	2	Status	Obligatory			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			30	15	0	0
Course objectives	- to expand students' knowledge about the way of life of traditional music (in the world) in modern times - to expand students' knowledge of applied ethnomusicological work					
Course learning outcomes	Learning outcome		Course learning outcome code		Learning outcome goal at the study programme level	
	It applies contemporary transformations of traditional music with respect to its key determinants (narrower musical characteristics, approaches to music making,		IU-FPMOZGPEM203-1		IU-FPMOZGPETM-1	

	ways and styles of performance, contexts of music making)		
	It explains the economic, cultural, ideological, educational and legal factors of the contemporary music scene, especially the factors that contribute to the preservation and/or revival of traditional music	IU-FPMOZGPEM203-2	IU-FPMOZGPGKM-2 IU-FPMOZGPETM-4
	Analyzes the art of breaking down musical processes on the example of certain Croatian, European and non-European genres of traditional, neo-traditional, ethnic music and world music	IU-FPMOZGPEM203-3	IU-FPMOZGPM-3
	It applies knowledge about the achievements and controversies of applied ethnomusicology	IU-FPMOZGPEM203-4	IU-FPMOZGPETM-3

Prerequisites for the course enrolment		
Course content	**Week** / shift	Topic
	1. – 15.	Introductory lecture - the influence of mass media on the emergence of world music; urbanization and contemporary class structure of society; modernity; local, national and international context Europe: Croatia, Bosnia and Herzegovina, Serbia Europe: Montenegro, Slovenia, North Macedonia Europe: Albania, Andorra, Austria Europe: Belgium, Bulgaria, Finland Europe: Cyprus, Czech Republic, Slovakia Europe: Kosovo, Moldova, Netherlands Europe: Norway, Ukraine, Russia Europe: Romania, Malta, Estonia Europe: Turkey, Monaco, Iceland Europe: Greece, Spain, Scotland Europe: Ireland, Hungary, Switzerland Europe: Germany, Austria, Sweden Europe: Poland, Portugal, Italy Europe: France, England, Denmark...
Language	English language	
E-learning	Sumarum	
Teaching methods	Monological (analytical and synthetic interpretation, proof, reference), dialogic (heuristic conversation, discussion method, directed conversation), demonstration method (visual, auditory), research methods (project, case analysis, interview, survey, questionnaire, field work, storm of ideas), participatory and interactive methods (free and guided conversation, dialogue, discussion, debate, negotiation, mediation).	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	essay/report	practical/project task	other	written exam	oral exam	practical
Allocation of ECTS credits and share in the grade							

Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes and preparing for final exams	/	45	1	0%
Colloquium/final written exam	IU-FPMOZGPEM203-1 IU-FPMOZGPEM203-3	10	0.3	50%
Final oral exam	IU-FPMOZGPEM203-2 IU-FPMOZGPEM203-4	5	0.2	50%
In total		60	2	100%

Method of calculating the final grade

The colloquium/final written exam is graded as follows (carries 50% of the total grade):
less than 55% correct answers = 0% grade
from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade
from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
The final oral exam is graded as follows (carries 50% of the total grade):
less than 55% correct answers = 0% grade
from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade
from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Miller, Terry E.; Shahriari, Andrew (2017) *World Music – A Global Yourney*. Izdanje 4. New York and London: Taylor&Francis.		x		x			x			
	Selected articles		x		x				x		
Additional	Selected articles		x		x				x		
Additional course information		The course includes examples from music literature - world music - which students listen to, recognize/distinguish, compare, and analyze.									

CHEMISTRY – Undergraduate study

Study programme	Chemistry					
Cycle	1.	Type	University			
Study track		Module				
Year of study	2.	Semester	3.			
Course title	**Analytical chemistry laboratory 1**	Course code	FPMOZKEB302			
ECTS	3	Status	Mandatory			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			0	60	0	0
Course objectives	- to achieve student independence when working in the laboratory - train the student for the application, planning and performance of qualitative chemical analysis experiments - train the student to interpret the results obtained through qualitative analysis					

	Learning outcome	Course learning outcome code	Learning outcome goal at the study programme level
Course learning outcomes	Actively applies knowledge of heterogeneous and homogeneous balances during the qualitative analysis process	IU-FPMOZKEB302-1	IU-FPMOZKEB-6, 7
	Plans and independently carries out systematic analysis of cations and anions	IU-FPMOZKEB302-2	IU-FPMOZKEB-7, 8, 10, 11
	Plans and independently implements simple ion exchange separation procedures.	IU-FPMOZKEB302-3	IU-FPMOZKEB-7, 8, 10, 11
	Applies safety measures when working with laboratory equipment and chemicals	IU-FPMOZKEB302-4	IU-FPMOZKEB-9
	Interprets and compares the results of qualitative analysis	IU-FPMOZKEB302-5	IU-FPMOZKEB-11

Prerequisites for the course enrolment		
Course content	Week / shift	Topic
	1st week	Procedures and tools in qualitative analysis.
	2nd week	Systematic separation and proof of cations. Qualitative analysis of Group I cations individually.
	3rd week	Qualitative analysis of group IIa cations individually.
	4th week	Qualitative analysis of group IIb and III cations individually.
	5th week	Qualitative analysis of group IV and V cations individually.
	6th, 7th week	Qualitative analysis of the mixture of group I and II cations
	8.-10. week	Qualitative analysis of the mixture of group III to VI cations.
	11th week	Systematic separation and proof of anions. Qualitative analysis of anions from groups I to III individually.
	12th week	Qualitative analysis of group IV and V anions individually.
	13th week	Ion exchange chromatography. Determination of the total concentration of cations in water using an ion exchanger.

	14th week	Separation of Cd(II) and Zn(II) from the mixture using an ion exchanger
	15th week	Deadline for compensation.
Language	English	
E-learning		
Teaching methods	-active-experiential methods (laboratory work) - demonstration - dialogue, discussion, free and guided conversation	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	**essay/report**	practical/project task	other	**written exam**	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	-	60	2	0 %
Report/laboratory diary	IU-FPMOZKEB302-5	15	0,5	40 %
Colloquium / Written exam	IU-FPMOZKEB302-1-5	15	0,5	60 %
In total				

Method of calculating the final grade

The evaluation refers to the passing of the entrance colloquium for each exercise, to keeping a laboratory diary (paper) and to the final written exam.
The entrance exam is evaluated as follows:
- less than 55% of correct answers = 0% grade
- from 55% to 66% of correct answers = 16.5% of the grade
- from 67% to 78% of correct answers = 21% of the grade
- from 79% to 90% correct answers = 25.5% of the grade
- from 91% to 100% correct answers = 30% of the grade

The laboratory diary is evaluated as follows:
- the diary is not written or has major deficiencies = 0%
- the diary contains descriptions of all exercises, there are deficiencies in the display of results or in chemical calculations, spelling errors = 16.5%
- the diary contains descriptions of all exercises, the results are well presented, but there are deficiencies in chemical calculations or grammar = 21%
- the diary contains descriptions of all exercises, the results are very well presented with small shortcomings in calculation or grammar = 25.5%
- the diary contains descriptions of all exercises, the results are presented neatly and systematically without deficiencies in calculation and grammar = 30%

The written exam is graded as follows:
- less than 55% of correct answers = 0% grade
- from 55% to 66% of correct answers = 22% of the grade
- from 67% to 78% of correct answers = 28% of the grade
- from 79% to 90% correct answers = 34% of the grade
- from 91% to 100% correct answers = 40% of the grade

According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):												
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature				
		own	other	croatian	english	other	multilingual	book	article	script	other	
Compulsory	Systematic Qualitative Analysis, Unit 7, Ncert		x		x						x	
Additional	Metal Ions of Cations and Anions Separation and Detection Approach, Ayman Y. El-Khateeb		x		x				x			
Additional course information												

Study programme	Chemistry					
Cycle	1st cycle	Type	University			
Study track		Module				
Year of study	2nd	Semester	3rd			
Course title	**Organic chemistry laboratory 1**	Course code	FPMOZKEB306			
ECTS	3	Status	Core			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			0	60	0	0
Course objectives	- Enable students to gain skills necessary for laboratory work, focusing on fundamental techniques in the synthesis, isolation, and purification of organic compounds. - Train students to identify synthesized organic compounds.					
Course learning outcomes	Learning outcome		Course learning outcome code		Learning outcome goal at the study programme level	
	Conduct laboratory exercises in a safe manner.		IU-FPMOZKEB306-1		IU-FPMOZKEB-9	
	Plan for a laboratory notebook containing information about reagents, experimental procedures, obtained data, and observations during the experiment.		IU-FPMOZKEB306-2		IU-FPMOZKEB-6	
	Independently construct apparatus.		IU-FPMOZKEB306-3		IU-FPMOZKEB-8	
	Apply the techniques for the separation and purification of organic compounds.		IU-FPMOZKEB306-4		IU-FPMOZKEB-8	
	Predict the outcome of organic reactions based on understanding of starting materials, functional		IU-FPMOZKEB306-5		IU-FPMOZKEB-3 IU-FPMOZKEB-7	

	groups, mechanisms, and reaction conditions.		
	Calculate the reaction yield and characterize the obtained substance, including its physical and chemical properties.	IU-FPMOZKEB306-6	IU-FPMOZKEB-10 IU-FPMOZKEB-11
Prerequisites for the course enrolment			

Course content	Week / shift	Topic
	1st – 8th week	Methods of isolation, purification, and identification of organic compounds.
	9th week	Sugar fermentation and ethanol distillation.
	10th – 13th week	Substitution at saturated carbon atom.
	14th week	Kinetics
	15th week	Preparation of cyclohexene.
Language	Croatian and English	
E-learning		
Teaching methods	- laboratory work - presentation, demonstration	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	essay/report	practical/project task	**other**	**written exam**	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Class attendance and participations	-	60	2,0	0%
Midterm	IU-FPMOZKEB306-3, 6	15	0,5	20%
Written exam	IU-FPMOZKEB306-1, 2, 4, 5	15	0,5	80%
In total		90	3	100%

Method of calculating the final grade

Each exercise begins with an entrance examination. It is necessary to solve at least 55% of the exam in order to proceed with the exercises. Practical work is graded as follows:
- Less than 55% correct answers = 0% grade
- 55% to 66% = up to 11% grade
- 67% to 78% = up to 14% grade
- 79% to 90% = up to 17% grade
- 91% to 100% = up to 20% grade

The written exam is graded as follows:
- Less than 55% correct answers = 0% grade
- 55% to 66% correct answers = 44% grade
- 67% to 78% correct answers = 56% grade
- 79% to 90% correct answers = 68% grade

- 91% to 100% correct answers = 80% grade

According to the Study Regulations, the final grade is determined as follows:

- 0 – 54% = fail (1)
- 55 – 66% = pass (2)
- 67 – 78% = good (3)
- 79 – 90% = very good (4)
- 91 – 100% = excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	O. Kronja, S. Borčić, Praktikum preparativne organske kemije, Školska knjiga, Zagreb, 2004.		X	X				X			
	I. Odak. Praktikum iz organske kemije. Interna skripta.	X		X						X	
Additional	J. R. Mohrig, C. N. Hammond, T. C. Morrill, D. C. Neckers, Experimental Organic Chemistry: a balanced approach, macroscale and microscale, W. H. Freeman and Company, New York, 1998.		X		X			X			

Additional course information	

Study programme	Chemistry		
Cycle	1.	Type	University
Study track		Module	
Year of study	2.	Semester	4.

Course title	**Analytical chemistry laboratory 2**	Course code	FPMOZKEB402			
ECTS	4	Status	Mandatory			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			0	60	0	0
Course objectives	- to achieve students' independence when working in the laboratory - train students for the application, planning and performance of quantitative chemical analysis experiments - train students to interpret the results obtained through quantitative analysis					

Course learning outcomes	Learning outcome	Course learning outcome code	Learning outcome goal at the study programme level
	Applies knowledge of equilibria relevant to analytical chemistry during quantitative analysis procedures	IU-FPMOZKEB402-1	IU-FPMOZKEB-6
	Plans and implements classic quantitative analysis procedures	IU-FPMOZKEB402-2	IU-FPMOZKEB-8, 9, 10
	Plans and implements potentiometric and spectrometric (UV/Vis molecular spectrometry) measurement procedures.	IU-FPMOZKEB402-3	IU-FPMOZKEB-8, 9, 10
	It calculates the analyte content based on data obtained by classical and instrumental quantitative methods of analysis.	IU-FPMOZKEB402-4	IU-FPMOZKEB-3, 11
	Interprets and compares the results of quantitative measurements	IU-FPMOZKEB402-5	IU-FPMOZKEB-3, 11

Prerequisites for the course enrolment	

Course content	Week / shift	Topic
	1st, 2nd week	Gravimetric methods of analysis. Determination of sulfate by precipitation with barium chloride.
	3rd week	Determination of nickel by precipitation with dimethylglyoxime
	4th week	Volumetric methods of analysis. Argentometric titrations.
	5th week	Neutralization titrations. Titrimetric determination of NaOH.
	6th week	Determination of acid in vinegar. Potentiometric determination of the end point of the titration.
	7th week	Titration of $NaCO_3$ + $NaHCO_3$ mixture. Determination of oxalic acid.
	8th week	Buffer preparation.
	9th week	Complexometric titrations. Titration of calcium and magnesium mixture. Determination of water hardness.
	10th week	Redox titrations. Iodometry.
	11th week	Bromatometry. Determination of ascorbic acid.
	12th week	Permanganometry. Determination of dichromate.
	13th week	Potentiometric determination of iodide.
	14th week	Spectrophotometric determination of $KMnO_4$ concentration.
	15th week	Deadlines for compensation.

Language	English
E-learning	

Teaching methods	- active-experiential methods (laboratory work) - demonstration - dialogue, discussion, free and guided conversation

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	**essay/report**	practical/project task	other	**written exam**	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	-	60	2,0	0%
Colloquium	IU-FPMOZKEB402-1-5	30	1,0	30 %
Report/laboratory diary	IU-FPMOZKEB402-4, 5	15	0,5	30 %
Written exam	IU-FPMOZKEB402-1-5	15	0,5	40 %
In total				

Method of calculating the final grade

The evaluation refers to the passing of the entrance colloquium for each exercise, to keeping a laboratory diary (paper) and to the final written exam.
The entrance exam is evaluated as follows:
- less than 55% of correct answers = 0% grade
- from 55% to 66% of correct answers = 16.5% of the grade
- from 67% to 78% of correct answers = 21% of the grade
- from 79% to 90% correct answers = 25.5% of the grade
- from 91% to 100% correct answers = 30% of the grade

The laboratory diary is evaluated as follows:
- the diary is not written or has major deficiencies = 0%
- the diary contains descriptions of all exercises, there are deficiencies in the display of results or in chemical calculations, spelling errors = 16.5%
- the diary contains descriptions of all exercises, the results are well presented, but there are deficiencies in chemical calculations or grammar = 21%
- the diary contains descriptions of all exercises, the results are very well presented with small shortcomings in calculation or grammar = 25.5%
- the diary contains descriptions of all exercises, the results are presented neatly and systematically without deficiencies in calculation and grammar = 30%

The written exam is graded as follows:
- less than 55% of correct answers = 0% grade
- from 55% to 66% of correct answers = 22% of the grade
- from 67% to 78% of correct answers = 28% of the grade
- from 79% to 90% correct answers = 34% of the grade
- from 91% to 100% correct answers = 40% of the grade

According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Part-time students have the same obligations and method of calculating the final grade as full-time students.											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Exercise Manual in Analytical Chemistry 2, Authorized Script	x			x					x	
Additional	Quantitative chemical analysis , Daniel C. Harris		x		x			x			
Additional course information											

Study programme	Chemistry				
Cycle	1st cycle	Type	University studies		
Study track		Module			
Year of study	2nd	Semester	4th		
Course title	**Organic chemistry laboratory 2**	Course code	FPMOZKEB406		
ECTS	4	Status	Core		
Teaching hours			Lectures	Tutorials	Seminars	Practice
			0	60	0	0
Course objectives	- Enable students to gain skills to choose and implement methods for synthesis of target molecules, on the basis on knowledge of functional group reactions covered in Organic Chemistry 1 and Organic Chemistry 2. - Foster students' comprehension of the interrelation between principles of reaction mechanisms and organic functional groups.				
Course learning outcomes	Learning outcome		Course learning outcome code		Learning outcome goal at the study programme level
	Conducts synthesis of target molecules through techniques learned in Organic Chemistry Laboratory 1.		IU-FPMOZKEB406-1		IU-FPMOZKEB-8
	Plans a laboratory notebook containing information about reagents, experimental procedures, obtained data, and observations during the experiment.		IU-FPMOZKEB406-2		IU-FPMOZKEB-7 IU-FPMOZKEB-11
	Independently assembles laboratory apparatus.		IU-FPMOZKEB406-3		IU-FPMOZKEB-8
	Correlates principles of reaction mechanisms with organic functional groups.		IU-FPMOZKEB406-4		IU-FPMOZKEB-5
	Predicts the outcome of organic reactions based on understanding of starting materials, functional		IU-FPMOZKEB406-5		IU-FPMOZKEB-5

	groups, mechanisms, and reaction conditions.		
	Plans the synthesis of organic compounds using specific reactions of functional groups.	IU-FPMOZKEB406-6	IU-FPMOZKEB-12

Prerequisites for the course enrolment		
Course content	Week / shift	Topic
	1st, 2nd week	Preparation of cyclohexanone.
	3rd, 4th week	Preparation of cyclohexanone oxime.
	5th week	Synthesis of dibenzalacetone.
	6th week	Bromination of aromatic compounds
	7th week	Synthesis of azo dyes.
	8th-10th week	Synthesis of unknown acetate. IR characterization of functional groups.
	11th week	Beckmann rearrangement of cyclohexanone oxime.
	12th-14th week	Functional group Interconversion. IR characterization of functional groups.
	15th week	Synthesis of biodegradable polymers.
Language	Croatian and english	
E-learning		
Teaching methods	- active-experimental methods (laboratory work) - lecturing methods (presentation, demonstration)	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	**essay/report**	practical/project task	**other**	**written exam**	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Class attendance and participations	-	60	2,0	0%
Report	IU-FPMOZKEB406-2	15	0,5	10%
Midterm	IU-FPMOZKEB406-1, 3	15	0,5	20%
Written exam	IU-FPMOZKEB406-2, 4, 5, 6	30	1,0	70%
In total		120	4	100%

Method of calculating the final grade

From each exercise, a lab notebook and a final report are written. The final report/paper is graded as follows:
- Report not written = 0%
- Report partially meets formal criteria = 5.5%
- Report fully meets formal criteria, but significant deficiencies are noted in content = 7%
- Report fully meets formal and content criteria, but grammatical and spelling errors are noted = 8.5%

- Report fully meets formal and content criteria and is grammatically and orthographically correct = 10%

Each exercise begins with an entrance examination. It is necessary to solve at least 55% of the exam in order to proceed with the exercises. Practical work is graded as follows:

- Less than 55% correct answers = 0% grade
- 55% to 66% = up to 11% grade
- 67% to 78% = up to 14% grade
- 79% to 90% = up to 17% grade
- 91% to 100% = up to 20% grade

The written exam is graded as follows:

- Less than 55% correct answers = 0% grade
- 55% to 66% correct answers = 38,5% grade
- 67% to 78% correct answers = 49% grade
- 79% to 90% correct answers = 59,5% grade
- 91% to 100% correct answers = 70% grade

According to the Study Regulations, the final grade is determined as follows:

- 0 – 54% = fail (1)
- 55 – 66% = pass (2)
- 67 – 78% = good (3)
- 79 – 90% = very good (4)
- 91 – 100% = excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students
(if any):

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	O. Kronja, S. Borčić, Praktikum preparativne organske kemije, Školska knjiga, Zagreb, 2004.		X	X				X			
	I. Odak. Praktikum iz organske kemije. Interna skripta.	X		X						X	
Additional	J. R. Mohrig, C. N. Hammond, T. C. Morrill, D. C. Neckers, Experimental Organic Chemistry: a balanced approach, macroscale and microscale, W. H.		X		X			X			

	Freeman and Company, New York, 1998.										

Additional course information	

CHEMISTRY – Graduate study

Study programme	Chemistry					
Cycle	2	Type	University			
Study track	Analytical chemistry and biochemistry	Module				
Year of study	1.	Semester	1			
Course title	**Higher laboratory in analytical chemistry**	Course code	FPMOZKEM102			
ECTS	5	Status	Mandatory			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			0	60	0	0
Course objectives	-achieve the student's ability to independently solve the problem of analyzing complex samples. - train the student to independently plan and implement the evaluation of the analytical method. - train the student to apply, plan and perform experiments using instrumental techniques - train the student to interpret the results obtained through quantitative analysis.					

	Learning outcome	Course learning outcome code	Learning outcome goal at the study programme level
Course learning outcomes	Applies theoretical knowledge from analytical chemistry during planning, explaining and performing experiments.	IU- FPMOZKEM102-1	IU-FPMOZKEM-3 IU-FPMOZKEM-7
	Independently plans and implements the procedures of instrumental analysis of a real sample	IU- FPMOZKEM102-2	IU-FPMOZKEM-1 IU-FPMOZKEM-2
	It plans and implements the procedures based on which it will evaluate the analytical method	IU- FPMOZKEM102-3	IU-FPMOZKEM-2
	It calculates the content of analytes based on data obtained by instrumental quantitative methods of analysis.	IU- FPMOZKEM102-4	IU-FPMOZKEM-1 IU-FPMOZKEM-7
	Interprets and compares the results of quantitative measurements	IU- FPMOZKEM102-5	IU-FPMOZKEM-3 IU-FPMOZKEM-7
	It applies knowledge about the principles of green analytical chemistry in practice	IU- FPMOZKEM102-6	IU-FPMOZKEM-2 IU-FPMOZKEM-4

Prerequisites for the course enrolment		
Course content	Week / shift	Topic
	1st week	Spectrophotometric determination of the pKa value of the indicator and the stoichiometry of the complex.
	2.-4. week	Optimization and evaluation of the method. Use of green tea as a reagent in the determination of Fe in a pharmaceutical preparation.
	5.-6. week	Spectrometric determination of Fe ions in tea using the thiocyanate method. Adaptation of the method when applying the system for subsequent injection analysis.
	7th week	Spectrophotometric determination of ascorbic acid and thiols in pharmaceutical preparations using the reaction with Cu(II)-neocuproine reagent.
	8th week	Potentiometric determination of iodide in tea using calibration with external standards.
	9th week	Potentiometric determination of iodide in tea using calibration with the addition of standards.
	10th week	Potentiometric determination of iodide and iodate in salt.
	11th week	Quality control of cosmetic preparation (Idio). Determination of UV protection index
	12th week	Determination of urea in cosmetic preparations.
	13th week	Water analysis. Determination of phosphate and ammonia.
	14-15. week	Determination of nitrates and nitrites in water: Application of different spectrophotometric methods; application of cell phones as detectors, preparation of rapid gel tests.
Language	English	
E-learning		
Teaching methods	-active-experiential methods (laboratory work) - demonstration - dialogue, discussion, free and guided conversation	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	**essay/report**	practical/project task	other	**written exam**	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	-	60	2	
Colloquium	IU- FPMOZKEM102-1-6	30	1	30 %
Report/laboratory diary	IU- FPMOZKEM102-4, 5	30	1	30 %
Written exam	IU- FPMOZKEM102-1-6	30	1	40 %
In total				

Method of calculating the final grade
The evaluation refers to the passing of the entrance colloquium for each exercise, to keeping a laboratory diary (paper) and to the final written exam. The entrance exam is evaluated as follows:

- less than 55% of correct answers = 0% grade
- from 55% to 66% of correct answers = 16.5% of the grade
- from 67% to 78% of correct answers = 21% of the grade
- from 79% to 90% correct answers = 25.5% of the grade
- from 91% to 100% correct answers = 30% of the grade

The laboratory diary is evaluated as follows:
- the diary is not written or has major deficiencies = 0%
- the diary contains descriptions of all exercises, there are deficiencies in the display of results or in chemical calculations, spelling errors = 16.5%
- the diary contains descriptions of all exercises, the results are well presented, but there are deficiencies in chemical calculations or grammar = 21%
- the diary contains descriptions of all exercises, the results are very well presented with small shortcomings in calculation or grammar = 25.5%
- the diary contains descriptions of all exercises, the results are presented neatly and systematically without deficiencies in calculation and grammar = 30%

The written exam is graded as follows:
- less than 55% of correct answers = 0% grade
- from 55% to 66% of correct answers = 22% of the grade
- from 67% to 78% of correct answers = 28% of the grade
- from 79% to 90% correct answers = 34% of the grade
- from 91% to 100% correct answers = 40% of the grade

According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Higher practicum in analytical chemistry - internal script	x			x					x	
Additional											
Additional course information											

CLASSROOM TEACHING – Undergraduate study

Study programme	CLASSROOM TEACHING					
Cycle	1.	Type	University			
Study track		Module				
Year of study	3.	Semester	5.			
Course title	**MUSIC CULTURE**	Course code	FPMOZRNB503			
ECTS	3	Status	Obligatory			
Teaching hours			Lectures	Tutorials	Seminars	Practice
			30	0	0	0
Course objectives	- expand students' knowledge of basic musical-theoretical concepts - expand students' knowledge of musical and stylistic periods from antiquity to the most recent developments in 20th century music with accompanying listening examples					

Course learning outcomes	Learning outcome	Course learning outcome code	Learning outcome goal at the study programme level
	It applies the basic characteristics of music in the period from antiquity to our time	IU-FPMOZRNB503-1	IU-FPMOZRNB-5
	He values musical periods and recognizes them aurally	IU-FPMOZRNB503-2	IU-FPMOZRNB-3
	It defines and describes the most important musical genres in each particular musical period	IU-FPMOZRNB503-3	IU-FPMOZRNB-15
	It evaluates the most important representatives of individual schools and ranks important parts of their works	IU-FPMOZRNB503-4	IU-FPMOZRNB-22

Prerequisites for the course enrolment		
Course content	**Week** / shift	Topic
	1.-15.	Basics of musical expression and style in music Musical culture of ancient Greece and Rome. Monophonic music of the Middle Ages School of Notre Dame, Ars antiqua and Ars nova. Dutch polyphony Renaissance. Roman school. Palestrina Baroque. Representatives of instrumental music of the 17th century in Europe Rococo, pre-classical, gallant style. A musical classic Romanticism Music of the Slavic peoples of the 19th century Music in the Czech Republic, Slovakia, Poland, Hungary, Croatia... 19. century French and Italian opera in the first half of the 19th century. Franck and contemporaries – impressionism in music (C. Debussy...) 19th century Trends of the late 19th century – democratization of music, romanticism, national schools...

		Trends in 20th century music. Perception and reception of New Music France, Germany, the Soviet Union in the 20th century Music in Poland, Romania, Greece... in the 20th century Music in North and South America... in the 20th century
Language	English language	
E-learning		
Teaching methods	Monological (analytical and synthetic interpretation, proof, reference), dialogic (heuristic conversation, discussion method, directed conversation), demonstration method (visual, auditory)	

Types of assessment (indicate)							
Type of pre-examination obligation					Type of exam		
midterm	seminar paper	essay/report	practical/project task	other	written exam	oral exam	practical

Allocation of ECTS credits and share in the grade				
Student obligations	Learning outcome code	Hours of workload	Share in ECTS	Share in grade
Attending classes	/	45	1.5	0%
Colloquium/final written exam	IU-FPMOZRNB503-1 IU-FPMOZRNB503-2	30	1	50%
Final oral exam	IU-FPMOZRNB503-3 IU-FPMOZRNB503-4	15	0.5	50%
In total		90	3	100%

Method of calculating the final grade

The colloquium/final written exam is graded as follows (carries 50% of the total grade):
less than 55% correct answers = 0% grade
from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade
from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
The final oral exam is graded as follows (carries 50% of the total grade):
less than 55% correct answers = 0% grade
from 55% to 66% = 27.5% of the grade
from 67% to 78% = 35% of the grade
from 79% to 90% = 42.5% of the grade
from 91% to 100% = 50% of the grade
According to the Study Regulations, the final grade is obtained as follows:
0 – 54% insufficient (1)
55 – 66% sufficient (2)
67 – 78% good (3)
79 – 90% very good (4)
91 – 100% excellent (5).

Allocation of ECTS credits, obligations and the method of calculating the final grade for part-time students (if any):

Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Henri Bibique-Delahaye: A Brief History Of Classical Music		x		x			x			

	Nicolas Carter: Music Theory: From Beginner to Expert - The Ultimate Step-By-Step Guide to Understanding and Learning Music Theory Effortlessly (Essential Learning Tools for Musicians Book 1)		x		x			x			
Additional	Wendy Thompson: Illustrated History of Great Composers: A Guide to the Lives, Key Works and Influences of Over 100 Renowned Composers		x		x			x			
Additional course information											