2021/22

# COURSE CATALOGUE , COMPETENCIES AND LEARNING

## UNDERGRADUATE STUDY PROGRAMME OF MEDICAL LABORATORY DIAGNOSTICS

Adopted at the 5th session of the Professional Expert Council held on 22 February 2022

UNIVERSITY OF SPLIT – UNIVERSITY DEPARTMENT OF HEALTH STUDIES

CONTENTS:

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## I. COMPETENCIES OF THE UNDERGRADUATE UNIVERSITY STUDY PROGRAMME OF MEDICAL LABORATORY DIAGNOSTICS

After completing undergraduate study programme of medical laboratory diagnostics the students will be fully qualified to work independently or in a team. Upon completion of their studies, the students acquire the following competences:

### 1. Knowledge

1.1. **Basic knowledge in natural and biomedical sciences**: apply basic knowledge of anatomy, physiology, biochemistry, biology, biophysics, embryology, public health, statistics needed to define, analyse and propose procedures in biomedicine and health.

1.2. **Expert knowledge in medical laboratory diagnostics:** apply professional knowledge and sample handling skills, use **good laboratory practices and improve laboratory quality** respecting the principles of ethics and deontology

## 2. Personal skills

2.1. **Problem solving and decision making**: demonstrate an interest in solving sampling and storage problems and diagnostic procedures.

2.2. **Communication skills**: provide positive interactions with patients, associates, other health professionals and the general public through oral and written forms of communication.

2.3. **Teamwork skills**: with professional, responsible and ethical behavior contribute in different situations and in interprofessional groups, as well as in the work of professional organizations and committees; work within health care teams when the interdisciplinary approach is needed; apply acquired knowledge in the field of medical laboratory diagnostics.

# 3. Professional skills

3.1. **Analysis of biological and public health samples**: apply professional knowledge and skills in performing basic tasks in medical laboratory diagnostics; **organise collection, transport, and storage of biological material** and nonbiological material from the public health domain; understand complex laboratory processes **in all types of laboratories in medicine and related sciences**, help in **substrate recognition and determination, activities of enzymes, hormones, vitamins, drugs, make microbiology and parasitology tests, haematology, coagulation, and transfusion tests, make histological, histopathological and cytological preparations, perform basic services in molecular biology laboratories used for human material.**

3.2. **Instrumental methods** of **analysis**: apply techniques and use analytical instruments in medical laboratories, **maintain and calibrate specific instruments, while applying the principle of work quality, independently perform tests in all areas of laboratory medicine with knowledge required for handling simple and complex devices working on the principle of spectrophotometry, fluorimetry, polarimetry, nephelometry, turbidimetry, densitometry, atomic absorption spectrometry, gas chromatography, and electrophoresis.**

3.3. **Organisational skills**: keep medical records, plan and organise work in the laboratory, **organise tasks within the scope of analyses of biologic material through guiding and supervising the work of health technicians**, including participation in the practical training of health staff based on acquired knowledge and skills.

3.4. **Information skills**: apply information technologies and databases to improve professional knowledge and skills.

3.5. **Research skills**: apply new technologies to improve profession and solving the problems.

# 4. Independence and responsibility

4.1. **Independence**: independently organise work within the scope of the bachelor's degree, manage work and plans relevant to the profession.

4.2. **Responsibility**: apply legal and ethical principles of the profession in independent and team work; carry out activities related to continuing professional education and contributes to the development of the profession.

## II. COURSE CATALOGUE WITH LEARNING OUTCOMES

Upon completion of the study the students will be able to:

1. Demonstrate basic knowledge of anatomy, physiology, biochemistry, embryology, biology, biophysics, public health, pathology and pathophysiology, pharmacology and microbiology and other biomedical subjects, as well as statistics and informatics needed to define, analyse and propose procedures in biomedicine and health.
2. Organise collection, transportation and storage of biological material and nonbiological material from the public health domain.
3. Organise activities within the scope of work on analysing samples of biological materials.
4. Apply analytical techniques and use instruments in medical laboratories.
5. Maintain and calibrate specific instruments through application of work quality principles.
6. Perform independently tests in all areas of laboratory medicine using the knowledge required for operating simple and complex equipment for spectrophotometry, fluorimetry, polarimetry, nephelometry, turbidimetry, densitometry, atomic absorption spectrometry, gas chromatography, and electrophoresis.
7. Help detecting and quantify substrates, activities of enzymes, hormones, vitamins, drugs.
8. Make microbiology and parasitology tests.
9. Make haematology, coagulation, and transfusion tests.
10. Make histological, histopathological and cytological preparations.
11. Perform basic services in molecular biology laboratories used for human material.
12. Evaluate and understand test results.
13. Understand complex laboratory processes in all types of laboratories in medicine and related sciences.
14. Use good laboratory practices and improve laboratory quality.
15. Apply legal and ethical principles of the profession.

## I. I II. SEMESTER – LEARNING OUTCOMES AT THE STUDY LEVEL

| KOD | PREDMET | PD M1 | PD M2 | PD M3 | PD M4 | PD M5 | PD M6 | PD M7 | PDM 8 | PDM 9 | PDM 10 | PDM 11 | PDM 12 | PDM 13 | PDM 14 | PDM 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZSZ634 | Informatics and Statistics in Health Care | + | | | | | | | | | | | | + | | |
| ZSZ635 | Social and Health Legislation | + | | + | | | | | | | | | | | | |
| ZSZ604 | Basics of Health Care Management | + | | + | | | | | | | | | | | | |
| ZSZ605 | Ethics in Health Care | + | | | | | | | | | | | | | | + |
| ZSZ606 | Physical Training I | | | | | | | | | | | | | | | |
| ZSZ630 | English for MDL I | + | | | | | | | | | | | | | | |
| ZSZ608 | Health Care Psychology | + | | | | | | | | | | | | | | |
| ZSZ609 | Communication Skills | + | | | | | | | | | | | | | | |
| ZSZ610 | Hygiene and Epidemiology | + | + | | | | | | | | | | | | | |
| ZSZ611 | Sociology of Health | + | | | | | | | | | | | | | | + |
| ZSZ613 | Public Health | + | + | | | | | | | | | | | | | |
| ZSZ614 | Biochemistry | + | | | + | | | | | | | | | | | |
| ZSZ615 | Biophysics | + | | | | | | | | | | | | | | |
| ZSZ616 | Anatomy | + | | | | | | | | | | | | | | |
| ZSZ617 | Physiology | + | | | | | | | | | | | | | | |
| ZSZ618 | Biology | + | | | | | | | | | | | | | | |
| ZSZ619 | Embryology and Histology | + | | | | | | | | | + | | | | | |
| ZSZ620 | Basics of Nursing Care | + | | | | | | | | | | | | | | |
| ZSL601 | Introduction to laboratory medicine | + | + | + | | | | | | | | | + | | | + |
| ZSL602 | Mathematics | + | | | | | | | | | | | | | | |
| ZSL633 | General Chemistry and Stoichiometry | + | | | | | | | | | | | | | | |
| ZSL603 | Organic Chemistry | + | | | | | | | | | | | | | | |
| ZSL632 | Analytical Chemistry | + | | | + | + | + | | | | | | | | | |
| ZSL605 | Clinical Skills I | + | + | + | | | | | | | | | + | | | |

## III. and IV. SEMESTER – LEARNING OUTCOMES AT THE STUDY LEVEL

| KOD | PREDMET | PDM 1 | PDM 2 | PDM 3 | PDM 4 | PDM 5 | PDM 6 | PDM 7 | PDM 8 | PDM 9 | PDM 10 | PDM 11 | PDM 12 | PDM 13 | PDM 14 | PDM 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZSZ621 | Introduction to Scientific Work | + | | | | | | | | | | | + | + | | |
| ZSZ622 | Use of Science Technology | + | | + | | | | | | | | | + | + | | |
| ZSZ623 | Physical Training II | | | | | | | | | | | | | | | |
| ZSZ631 | English for MDL I | + | | | | | | | | | | | | | | |
| ZSZ625 | Pathophysiology | + | | | | | | | | | | | | + | | |
| ZSZ626 | Pathology | + | + | | | | | | | | + | | | | | |
| ZSZ627 | Microbiology and Parasitology | + | + | | | | | | + | | | | | | | |
| ZSZ628 | Pharmacology | + | | | | | | + | | | | | | | | |
| ZSL606 | Basics of haematology and coagulation | + | + | | | | | | | + | | | | | | |
| ZSL607 | Physical methods in MLD | + | | | + | + | + | | | | | | | + | | |
| ZSL608 | Biochemistry II | + | + | + | | | | + | | | | | + | | | |
| ZSL609 | Cellular biology with genetics basics | + | | | | | | | | | | + | | | | |
| ZSL610 | Cytology and Histology | + | + | | | | | | | | + | | | | | |
| ZSL611 | Laboratory histopathological techniques | | + | + | | | + | | | | + | | + | | | |
| ZSL612 | Instrumental techniques in MLD | + | | | + | + | + | | | | | + | | + | | |
| ZSL613 | Computer processing of laboratory data (LIS) | + | | | | | | | | | | | + | | | |
| ZSL616 | Clinical Skills II | | + | + | + | + | + | | | | | | + | + | + | |
| ZSL615 | Food Toxicology | + | + | | | | + | | | | | | | | | |

## V. and VI. SEMESTER – LEARNING OUTCOMES AT THE STUDY LEVEL

| KOD | PREDMET | PDM1 | PDM2 | PDM3 | PDM4 | PDM5 | PDM6 | PDM7 | PDM8 | PDM9 | PDM10 | PDM11 | PDM12 | PDM13 | PDM14 | PDM15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZSZ630 | Emergency in Medicine | + | | | | | | | | | | | | | | |
| ZSL617 | Clinical Biochemistry | + | + | + | | | | + | | | | | + | + | | |
| ZSL618 | Basics of Transfusion Medicine and Transplantation | + | + | + | | | | | | + | | | + | + | | |
| ZSL619 | Clinical Microbiology | + | + | + | | | + | | + | | | + | + | + | | |
| ZSL620 | Laboratory Haematology and Coagulation | + | + | + | | | + | + | | + | | | + | + | | |
| ZSL621 | Molecular Biology Techniques in Medicine | + | + | + | | | + | | | | | + | + | | | |
| ZSL622 | Laboratory Immunology and Immunochemistry | + | + | + | | | + | | | | | + | + | + | | |
| ZSL623 | Automation in MLD | + | | + | + | + | + | | | | | | + | + | + | |
| ZSL624 | Quality control in MLD | + | | + | + | + | + | | | | | | | + | + | |
| ZSL627 | Clinical Skills III | | + | + | + | + | + | + | | | | + | + | + | + | |
| ZSL628 | Bachelor's Thesis | | | | + | | | | | | | | | + | | |
| ZSL625 | Urgent laboratory diagnostics | + | + | | | | | + | | | | + | + | + | | |
| ZSL629 | Immunogenetics | + | + | | | | | | | | | + | | | | |

## III. MANDATORY AND ELECTIVE COURSES

| LIST OF COURSES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Year of study: 1. | | | | | | | |
| Semester: I. i II. | | | | | | | |
| STATUS | CODE | COURSE | NUMBER OF HOURS PER SEMESTER | | | | ECTS |
| | | | L | S | E | F | |
| Mandatory | ZSZ634 | Informatics and Statistics in Health Care | 10 | 10 | 20 | 0 | 2 |
| | ZSZ635 | Social and Health Legislation | 15 | 15 | 0 | 0 | 2 |
| | ZSZ604 | Basics of Health Care Management | 10 | 4 | 5 | 0 | 1 |
| | ZSZ605 | Ethics in Health Care | 20 | 10 | 0 | 0 | 1,5 |
| | ZSZ606 | Physical Training I | 0 | 0 | 0 | 38 | 1,5 |
| | ZSS642 | English for MLD I | 0 | 30 | 0 | 0 | 1,5 |
| | ZSZ608 | Health Care Psychology | 14 | 12 | 18 | 0 | 2 |
| | ZSZ609 | Communication Skills | 12 | 0 | 0 | 18 | 2 |
| | ZSZ610 | Hygiene and Epidemiology | 30 | 20 | 0 | 5 | 3 |
| | ZSZ611 | Sociology of Health | 20 | 12 | 0 | 0 | 1,5 |
| | ZSZ613 | Public Health | 15 | 5 | 0 | 0 | 1 |
| | ZSZ614 | Biochemistry | 20 | 10 | 0 | 0 | 2 |
| | ZSZ615 | Biophysics | 20 | 5 | 0 | 0 | 2 |
| | ZSZ616 | Anatomy | 26 | 20 | 40 | 0 | 3 |
| | ZSZ617 | Physiology | 30 | 7 | 0 | 10 | 3 |
| | ZSZ618 | Biology | 20 | 10 | 0 | 0 | 2 |
| | ZSZ619 | Embryology and Histology | 15 | 4 | 0 | 0 | 1 |
| | ZSZ620 | Basics of Nursing Care | 40 | 15 | 210 | 0 | 11 |
| | ZSL601 | Introduction to laboratory medicine | 60 | 30 | 200 | 0 | 12 |
| | ZSL602 | Mathematics | 20 | 20 | 20 | 0 | 4 |
| | ZSL633 | General Chemistry and Stoichiometry | 30 | 20 | 15 | 0 | 4 |
| | ZSL603 | Organic Chemistry | 30 | 20 | 15 | 0 | 4 |
| | ZSL632 | Analytical Chemistry | 30 | 20 | 15 | 0 | 4 |
| | ZSS604 | Clinical Skills I | 10 | 10 | 120 | 0 | 6 |
| | TOTAL | | 432 | 289 | 303 | 71 | 60 |

Key
L – lectures
S – seminars
E – exercises
F – field practice

*Physical Training – students have 38 hours of field practice in the first and second year.

| LIST OF COURSES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Year of study: 2. | | | | | | | |
| Semester: III i IV | | | | | | | |
| STATUS | CODE | COURSE | NUMBER OF HOURS PER SEMESTER | | | | ECTS |
| | | | L | S | E | F | |
| Mandatory | ZSZ621 | Introduction to Scientific Work | 6 | 10 | 12 | 0 | 1,5 |
| | ZSZ622 | Use of Science Technology | 10 | 12 | 0 | 0 | 1,5 |
| | ZSZ623 | Physical Training II | 0 | 0 | 0 | 38 | 1,5 |
| | ZSZ643 | English for MLD II | 0 | 30 | 0 | 0 | 1,5 |
| | ZSZ625 | Pathophysiology | 30 | 8 | 0 | 0 | 2 |
| | ZSZ626 | Pathology | 30 | 8 | 0 | 0 | 2 |
| | ZSZ627 | Microbiology and Parasitology | 20 | 10 | 0 | 0 | 2 |
| | ZSZ628 | Pharmacology | 28 | 8 | 0 | 0 | 2 |
| | ZSL606 | Basics of Hematology and Coagulation | 30 | 20 | 35 | 0 | 5 |
| | ZSL607 | Physical Methods in MLD | 15 | 10 | 30 | 0 | 3 |
| | ZSL608 | Biochemistry II | 40 | 20 | 45 | 0 | 6 |
| | ZSL609 | Cellular Biology with Genetics Basics | 30 | 15 | 25 | 0 | 4 |
| | ZSL610 | Cytology and Histology | 25 | 10 | 35 | 0 | 4 |
| | ZSL611 | Laboratory Histopathological Techniques | 20 | 10 | 45 | 0 | 4 |
| | ZSL612 | Instrumental Techniques in MLD | 25 | 15 | 30 | 0 | 4 |
| | ZSL613 | Computer Processing of Laboratory Data (LIS) | 8 | 7 | 20 | 0 | 2 |
| | ZSL616 | Clinical Skills II | 10 | 10 | 235 | 0 | 11 |
| | | Elective course | 15 | 10 | 20 | 0 | 3 |
| | | | | | | | |
| | TOTAL (Mandatory courses) | | **342** | **213** | **532** | **38** | **60** |
| Elective | ZSL615 | Food Toxicology | 15 | 10 | 20 | 0 | 3 |
| | | | | | | | |
| | 1 elective course is mandatory | | | | | | |

| LIST OF COURSES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Year of study: 3 | | | | | | | |
| Semester: V i VI | | | | | | | |
| STATUS | CODE | COURSE | NUMBER OF HOURS PER SEMESTER | | | | ECTS |
| | | | L | S | E | F | |
| Mandatory | ZSZ630 | Emergency in Medicine | 18 | 0 | 25 | 0 | 2 |
| | ZSL617 | Clinical Biochemistry | 40 | 30 | 50 | 0 | 7 |
| | ZSL618 | Basics of Transfusion Medicine and Transplantation | 40 | 30 | 50 | 0 | 7 |
| | ZSL619 | Clinical Microbiology | 30 | 10 | 75 | 0 | 5 |
| | ZSL620 | Laboratory Haematology and Coagulation | 30 | 15 | 50 | 0 | 6 |
| | ZSL621 | Molecular Biology Techniques in Medicine | 25 | 25 | 40 | 0 | 5 |
| | ZSL622 | Laboratory Immunology and Immunochemistry | 20 | 15 | 50 | 0 | 5 |
| | ZSL623 | Automation in MLD | 6 | 4 | 30 | 0 | 2 |
| | ZSL624 | Quality Control in MLD | 6 | 4 | 25 | 0 | 2 |
| | ZSL627 | Clinical Skills III | 10 | 10 | 125 | 0 | 7 |
| | ZSL628 | Bachelor's Thesis | 0 | 0 | 270 | 0 | 10 |
| | | | | | | | |
| | | Elective course | 10 | 5 | 15 | 0 | 2 |
| | TOTAL (Mandatory courses) | | **235** | **148** | **805** | **0** | **60** |
| | ZSL625 | Urgent Laboratory Diagnostics | 10 | 5 | 15 | 0 | 2 |
| | ZSL629 | Immunogenetics | 10 | 5 | 20 | 0 | 2 |
| | | | | | | | |
| | | | | | | | |
| | 1 elective course is mandatory | | | | | | |

## IV. EXAM AND COURSE ENTRY REQUIREMENTS

| CODE | COURSE | CORSE ENTRY REQUIREMENTS | EXAM ENTRY REQUIREMENTS |
|---|---|---|---|
| ZSZ634 | Informatics and Statistics in Health Care | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ635 | Social and Health Legislation | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ604 | Basics of Health Care Management | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ605 | Ethics in Health Care | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ606 | Physical Training I | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ630 | English for Medical Laboratory Diagnostics I | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ608 | Health Care Psychology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ609 | Communication Skills | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ610 | Hygiene and Epidemiology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ611 | Sociology of Health | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ613 | Public Health | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ614 | Biochemistry | - | Completed lectures, seminars and exercises |

| | | | |
|---|---|---|---|
| ZSZ615 | Biophysics | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ616 | Anatomy | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ617 | Physiology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ618 | Biology | - | Completed lectures and seminars |
| ZSZ619 | Embryology and Histology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ620 | Basics of Nursing Care | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL601 | Introduction to laboratory medicine | - | Completed lectures and exercises |
| ZSL602 | Mathematics | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL633 | General Chemistry and Stoichiometry | - | Completed lectures and exercises |
| ZSL603 | Organic Chemistry | - | Completed lectures and exercises |
| ZSL632 | Analytical Chemistry | - | Completed lectures and exercises |
| ZSL605 | Clinical Skills I | - | Completed lectures and exercises |
| ZSZ621 | Introduction to Scientific Work | - | - |
| ZSZ622 | Use of Science Technology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ623 | Physical Training II | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ631 | English for Medical Laboratory Diagnostics II | **Passed** English for Medical Laboratory Diagnostics I I | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ625 | Pathophysiology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ626 | Pathology | - | In accordance with the Ordinance on the Study and System of Studying |

| | | | |
|---|---|---|---|
| ZSZ627 | Microbiology and Parasitology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ628 | Pharmacology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL606 | Basics of Haematology and Coagulation | - | Completed lectures, seminars and exercises |
| ZSL607 | Physical methods in MLD | - | Completed lectures, seminars and exercises |
| ZSL608 | Biochemistry II | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL609 | Cellular biology with genetics basics | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL610 | Cytology and Histology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL611 | Laboratory Histopathological Techniques | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL612 | Instrumental Techniques in MLD | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL613 | Computer Processing of Laboratory Data (LIS) | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL616 | Clinical Skills II | - | Completed lectures and exercises |
| ZSL615 | Food Toxicology | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSZ630 | Emergency in Medicine | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL617 | Clinical Biochemestry | Completed lectures and **passed exams** Biochemistry II and Physical methods in MLD | In accordance with the Ordinance on the Study and System of Studying |
| ZSL618 | Basics of Transfusion Medicine and Transplantation | | In accordance with the Ordinance on the Study and System of Studying |
| ZSL619 | Clinical Microbiology | **Passed exam** Microbiology with Parasitology | In accordance with the Ordinance on the Study and System of Studying |

| | | | |
|---|---|---|---|
| ZSL620 | Laboratory Haematology and Coagulation | Completed lectures and **passed exam** Laboratory Haematology and Coagulation | In accordance with the Ordinance on the Study and System of Studying |
| ZSL621 | Molecular Biology Techniques in Medicine | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL622 | Laboratory Immunology with Immunochemistry | - | Completed lectures, seminars and exercises |
| ZSL623 | Automation in MLD | - | Completed lectures and clinical skills |
| ZSL624 | Quality Control in MLD | - | Completed lectures and exercises |
| ZSL627 | Clinical Skills III | - | Completed lectures and exercises |
| ZSL628 | Final Thesis | - | In accordance with the Ordinance on the Study and System of Studying |
| ZSL625 | Urgent Laboratory Diagnostics | - | Completed lectures and exercises |
| ZSL629 | Immunogenetics | - | In accordance with the Ordinance on the Study and System of Studying |

## V. CURRICULA OF MANDATORY AND ELECTIVE COURSES

| NAME OF THE COURSE | Informatics and Statistics in Health Care | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ634** | Year of study | 1 | | | |
| Course teacher | Antonela Matana, PhD, Assistant Professor | Credits (ECTS) | 2 | | | |
| Associate teachers | - | Type of instruction (number of hours) | L | S | E | T |
| | | | 10 | 10 | 20 | |
| Status of the course | Mandatory | Percentage of application of e-learning | 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing this course, students will be able to:<br>- Describe and explain the basic concepts of informatics and health information systems;<br>- Explain and apply computational techniques in the process of health care;<br>- Select the relevant databases applicable to the process of health care and for studying and research;<br>- Apply information technology in all communication processes in healthcare institutions;<br>- Use text processing and tabular data processing software, creating documents, presenting tabular data;<br>- Use medically oriented search engines, browse medical literature in the Medline database, use Boolean operators for searching medical content on the Internet;<br>- Independent creation of databases<br>- Use research methodology and statistical methods and procedures in medicine<br>- Understand the concepts of measurements in research;<br>- Explain the different ways of presenting the data collected in the research;<br>- Explain and demonstrate basic statistical definitions. |

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

| Format of instruction | Class unit | Class hour |
|---|---|---|
| L,S,E | The basic concepts of informatics and its importance for the development of knowledge and improvement of professional practice | 5 |
| L,S,E | Hardware and software | 5 |
| L,S,E | System software, application software, user software | 5 |
| L,S,E | Data types, data analysis in research. Sample and population. Estimation of population parameters Empirical distributions. Fundamentals of statistical inference. | 5 |
| L,S,E | Basic forms of computer application in database search with the aim of learning and research (Medline database) | 5 |
| L,S,E | Healthcare information systems: principles and levels | 5 |
| L,S,E | Application of informatics in improving the healthcare processes. | 5 |
| L,S,E | Application of information technology in all communication processes in health care institutions. | 5 |

<table>
<tr><td>Format of instruction</td><td>☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work</td><td>☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="2">Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning</td></tr>
<tr><td>Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td colspan="2">
<table>
<tr><td>Class attendance</td><td></td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>0.5</td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>1.5</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
</table>
</td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="2">
<table>
<tr><th>Evaluation indicators</th><th>Success (points)</th><th>Share in overall grade (%)</th></tr>
<tr><td>Written exam</td><td>30</td><td>75</td></tr>
<tr><td>Seminar essay</td><td>10</td><td>25</td></tr>
<tr><td>Total</td><td>40</td><td>100</td></tr>
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PERFORMANCE AND GRADE RATIO
<table>
<tr><th>Grading (%)</th><th>Criteria</th><th>Grades</th></tr>
<tr><td>60-69.9</td><td>meets the minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79.9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89.9</td><td>above-average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>outstanding success</td><td>excellent (5)</td></tr>
</table>
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<tr><td>Required literature (available in the library and via other media)</td><td colspan="2">
<table>
<tr><th>Title</th><th>Number of copies in the library</th><th>Availability via other media</th></tr>
<tr><td>Kern J, Petrovečki M, urednici. Medicinska informatika. Zagreb: Medicinska Naklada; 2009.</td><td></td><td></td></tr>
<tr><td>B.Petz, Osnovne statističke metode za nematematičare, Naklada Slap, Jastrebarsko, 1997</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="2">1. van Bemmel JH, Musen MA (eds). Handbook of Medical Informatics. Heidelberg: Springer-Verlag, 1997.<br>2. Coiera E. Guide to health informatics. 2. izd. London: Arnold; 2003.<br>3. Shortliffe E, Cimino JJ, urednici. Biomedical Informatics: Computer Applications in Health Care and Biomedicine. New York: Springer; 2006.<br>4. Somek, M. Skripta iz informatike. Zagreb, Zdravstveno veleučilište, e-stranice Katedre za informatiku, 2010.<br>5. Ferenczi E, Muirhead N. Doktor u jednom potezu: Statistika i epidemiologija. Zagreb: Medicinska naklada; 2012.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="2">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="2">-</td></tr>
</table>

| NAME OF THE COURSE | Social and Health Legislation | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ635** | Year of study | 1. | | | |
| Course teacher | Jozo Čizmić, full professor tenure | Credits (ECTS) | 2. | | | |
| Associate teachers | Nina Mišić Radanović, assistant professor | Type of instruction (number of hours) | L | S | E | T |
| | | | 15 | 15 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After listening to lectures, independent learning and passing the exam, students will:<br>- Recognize and connect the concepts and basic contents of health law<br>- Understand the basics of health law.<br>- Identify and clarify the basic criteria of legal responsibility of health professionals, rights and obligations of health professionals in performing their activities.<br>- Clarify evaluation of healthcare activities<br>- Explain the work and structure of professional chambers.<br>- Understand and explain the position of the health worker in relation to disciplinary, civil and criminal liability.<br>- Recognize and apply the fundamental rights of patients at work. |

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

| | | |
|---|---|---|
| L/S | The concept and content of health law, the relationship to other scientific disciplines and the principles of health care. | 3/3 |
| L/S | The concept of health care and social care , health care measures, levels of health care, content and organizational forms of health care, health care institutions | 2/2 |
| L/S | Rights and obligations of health professionals in performing activities (Providing and denying assistance; Mutual relations between workers and patients; Appeal of conscience; Business secret; Obligation to report; Keeping medical records; Choosing another doctor; Searching for a doctor; Health professionals as witnesses and experts). | 2/2 |
| L/S | Quality assurance of the provided health service (Professional training; Professional supervision over the work of health workers; Professional chambers). | 2/2 |
| L/S | Chambers of Health Workers (Obligation to associate in the Chamber; Exemptions from mandatory association in the Chamber; Public powers of the Chamber; Affairs of the Chamber; Bodies of the Chamber; Supervision of the Chamber; Cooperation of the Chamber with the Ministry of Health and with other bodies; Notification of the Chamber; Payment of membership fees and other financial obligations of members of the Chamber). | 2/2 |
| L/S | Disciplinary liability of health care workers (Disciplinary violations; Serious and minor disciplinary violations; Disciplinary bodies; Disciplinary measures; Money Fine; Initiation of disciplinary proceedings; Appropriate application of the law; Statute of limitations; Misdemeanor liability), criminal and civil liability, | 2/2 |
| L/S | Fundamental rights of patients. | 2/2 |

<table>
<tr><td>Format of instruction</td><td>X lectures<br>X seminars and workshops<br>☐ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work</td><td>☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="2">Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning.</td></tr>
<tr><td>Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td colspan="2">
<table>
<tr><td>Class attendance</td><td></td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>2</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
</table>
</td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="2">
<table>
<tr><th colspan="2">Evaluation indicators</th><th>Success (points)</th><th>Share in overall grade (%)</th></tr>
<tr><td colspan="2">Written exam</td><td>20</td><td>100</td></tr>
<tr><td colspan="2">Total</td><td>20</td><td>100</td></tr>
</table>
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<tr><th>Achieved success percentage (%)</th><th>Criteria</th><th>Grade</th></tr>
<tr><td>60-69,9</td><td>meets the minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89,9</td><td>above average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>exceptional success</td><td>excellent (5)</td></tr>
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</td></tr>
<tr><td>Required literature (available in the library and via other media)</td><td colspan="2">
<table>
<tr><th>Title</th><th>Number of copies in the library</th><th>Availability via other media</th></tr>
<tr><td>Udžbenik Osnove zdravstvenog prava, autori; Jozo Čizmić i Ljubica Žunić, Split 2014, web knjižara Redak</td><td></td><td></td></tr>
<tr><td>BABIĆ, T. – ROKSANDIĆ, S., Osnove zdravstvenog prava, Zagreb, 2006.</td><td></td><td></td></tr>
<tr><td>ČIZMIĆ, J., Pravni aspekti medicinske dokumentacije, «Pravo i porezi», godina XVI., 2007., br. 10., str. 3.-18.</td><td></td><td></td></tr>
<tr><td>ČIZMIĆ, J., Pojam, izvori i načela medicinskog prava, «Pravo i porezi», god. XVI., 2007., br. 6, str. 25.-34.</td><td></td><td></td></tr>
<tr><td>BOŠKOVIĆ, Z., Medicina i pravo, Zagreb, 2007.</td><td></td><td></td></tr>
<tr><td>Zbornik radova Liječnička pogreška – medicinski i pravni aspekti, zbornik radova, urednici JANKOVIĆ, S. – ČIZMIĆ, J., Split, 2007.</td><td></td><td></td></tr>
<tr><td>Zakon o kvaliteti zdravstvene zaštite, NN br. 118/18</td><td></td><td></td></tr>
<tr><td>Zakon o zdravstvenoj zaštiti, NN br. 100/18, 125/19, 147/20</td><td></td><td></td></tr>
<tr><td>Kodeks medicinske etike i deontologije, NN br. 55/08, 139/15</td><td></td><td></td></tr>
<tr><td>Podzakonski propisi i propisi autonomnog (staleškog) prava.</td><td></td><td></td></tr>
<tr><td>Zakon o radiološkoj i nuklearnoj sigurnosti, NN br. 141/13, 39/15, 130/17, 118/18, 21/22</td><td></td><td></td></tr>
<tr><td>Zakon o zaštiti od neionizirajućih zračenja, NN br. 91/10, , 114/18</td><td></td><td></td></tr>
</table>
</td></tr>
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| | | | |
|---|---|---|---|
| | Zakon o sestrinstvu, NN br. 121/03, 117/08, 57/11 | | |
| | Zakon o fizioterapeutskoj djelatnosti, NN br. 120/08. | | |
| | Zakon o primaljstvu, NN br. 120/08, 145/10 | | |
| | Zakon o liječništvu, «Narodne novine», broj 121/03, 117/08 | | |
| | Zakon o zaštiti prava pacijenata, NN br. 169/04, 37/08 | | |
| Optional literature (at the time of submission of study programme proposal) | HERVEY, T. – McHALE, J. V., *Health Law and the European Union*, Cambridge, 2004.<br>LAUFS-UHLENBRUCK, *Handbuch des Arztrechts*, Munchen, 2002.<br>DEUTSCH-SPICKHOFF, *Medizinerecht*, Berlin, 2003.<br>STAUCH, M. – WHEAT, K., *Sourcebook on Medical Law*, London-Sydney, 1999.,<br>RADIŠIĆ, J., *Medicinsko pravo*, Beograd, 2004.<br>KLARIĆ, P., *Odgovornost za štete nastale uporabom medicinskih tehničkih uređaja,* Pravo u gospodarstvu, 4/2002.<br>PETRIĆ, S., *Građanskopravna odgovornost zdravstvenih djelatnika*, Zbornik PF Sveučilišta u Rijeci, 2005/vol 26. br. 1., str. 81. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

<table>
<tr><td colspan="2">NAME OF THE COURSE</td><td colspan="5">Basics of Health Care Management</td></tr>
<tr><td colspan="2">Code</td><td colspan="5">ZSZ604</td></tr>
<tr><td>Study programme</td><td colspan="2">Common</td><td>Year of study</td><td colspan="4">1st</td></tr>
<tr><td>Course teacher</td><td colspan="2">Dejan Kružić, PhD, Full professor tenure</td><td>Credits (ECTS)</td><td colspan="4">1,0</td></tr>
<tr><td rowspan="2">Associate teachers</td><td colspan="2" rowspan="2">Ana Juras, PhD, Research associate<br>Ante Mihanović, PhD, Senior lecturer</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>E</td><td>T</td></tr>
<tr><td>10</td><td>4</td><td>5</td><td></td></tr>
<tr><td>Status of the course</td><td colspan="2">Mandatory</td><td>Percentage of application of e-learning</td><td colspan="4">Up to 20%</td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">No requirements</td></tr>
<tr><td>Course objectives</td><td colspan="6">Introduce students with basic concepts and available methods and tools of management and leadership in healthcare. Acquired knowledge should enable students to understand organizational, management and leadership processes in healthcare and healthcare organizations.</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">1. Critically consider and evaluate management concepts and theories in the context of health and health organizations;<br>2. Propose to the current situation an adequate organizational structure, organizational culture and manner of planning in the health organization;<br>3. Propose to the current situation an adequate approach and methods of workforce management in the health organization;<br>4. Critically analyse various interpersonal processes, dynamics and communication in teamwork and propose an adequate leadership style in health organization;<br>5. Propose to the current situation adequate methods and tools of control, especially quality control in the health organization;<br>6. Critically consider work situations in the health organization and propose the application of adequate principles and methods of ethical management.</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="6">– Conceptual definition of management. Basic principles, theories and functions of management. Application of management in the context of health and healthcare organizations. The importance of applying ethics in the management of healthcare organizations.<br>– Planning as a function of management. Implementation of the planning function in healthcare organizations.<br>– Organizing as a function of management. Implementation of the organizing function in health organizations.<br>– Staffing as a function of management. Implementation of the staffing function in healthcare organizations.<br>– Leadership as a function of management. Implementation of the leadership function in health organizations.<br>– Control as a function of management. Implementation of the control function in health organizations.</td></tr>
<tr><td>Format of instruction</td><td colspan="3">☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ on line in entirety<br>☒ partial e-learning<br>☐ field work</td><td colspan="3">☒ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other)</td></tr>
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<tr><td>Student responsibilities</td><td colspan="6">In accordance to Rules of studying and Deontological code for USSM students.<br>Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning.</td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>0,20</td><td>Research</td><td></td><td>Practical training</td><td>0,20</td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
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<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>0,60</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">Regular class attendance:<br>1. lectures - minimum 70% of all lectures,<br>2. seminars 70% and exercises 80%,<br>3. active participation on classes.<br><br>
<table>
<tr><th>Evaluation indicators</th><th>Success (points)</th><th>Share in overall grade (%)</th></tr>
<tr><td>Attendance and activity on lectures and seminars (for 100% attendance)</td><td>2</td><td>10</td></tr>
<tr><td>Written exam</td><td>14</td><td>70</td></tr>
<tr><td>Practical training</td><td>4</td><td>20</td></tr>
<tr><td>Total</td><td>20</td><td>100</td></tr>
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<table>
<tr><th>Title</th><th>Number of copies in the library</th><th>Availability via other media</th></tr>
<tr><td>Juras, A. (2021). Osnove menadžmenta u zdravstvu, Sveučilište u Splitu, SOZS, Split.</td><td></td><td></td></tr>
<tr><td>Buble, M. (2009). Menadžment. Ekonomski fakultet. Sveučilište u Splitu, selected chapters.</td><td></td><td></td></tr>
<tr><td>Lectures' and exercises' materials</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">Kalauz, S. (2014). Organizacija i upravljanje u zdravstvenoj njezi. Medicinska naklada, Zagreb.<br>Murray, E. (2017). Nursing leadership and management: For patient safety and quality care. FA Davis Company, Philadelphia, SAD.<br>Walshe, K., Smith, J. (Eds.). (2011). Healthcare management. McGraw-Hill Education, UK.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Ethics in Health Care | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ605** | Year of study | 1. | | | |
| Course teacher | Ana Ćurković, PhD, Assistant professor | Credits (ECTS) | 1.5 | | | |
| Associate teachers | Ana Jeličić, PhD, Assistant professor | Type of instruction (number of hours) | L | S | E | T |
| | | | 20 | 10 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Under 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>- explain the concept of ethics as a philosophical discipline and its historical development,<br>- distinguish ethics from morality,<br>- describe and explain the history of health ethics,<br>- describe, explain and apply the principles of health ethics,<br>- describe, explain and apply the code of ethics,<br>- describe, explain and take a critical stance in various ethical dilemmas in health practice,<br>- explain the models of ethical decision-making in health practice,<br>- explain the importance of professional secrecy,<br>- to promote and respect the rights of man, child and patient,<br>- analyze and evaluate individual cases and situations,<br>- adopt ethical values,<br>- make, accept and face, deal with, one's own ethical and moral decisions and the consequences of those decisions in the context of a sense of personal responsibility and duty. |

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

| Tipe of instruction | Subject | Number of hours |
|---|---|---|
| L | History and definition of ethics, ethics as a philosophical discipline: the foundation of ethics, the meaning of the term, the subject of ethics, ethics and morality | 1 |
| L | Object and subject of ethics: man as a person - human dignity, human rights, value and good - evil, conscience and guilt | 2 |
| L | Bioethics: history, concept, meaning, application, role, principles, topics and problems | 2 |
| L | Introduction to health ethics, medical ethics: history, concept, characteristics, areas | 2 |
| L/S | Ethics and science: ethics in scientific research | 1/1 |
| L/S | Ethics and fundamental human rights (equality and respect, discrimination, violation of patients' rights, right to decide) | 2/2 |
| L | Ethics and communication in medicine (communication with colleagues, communication with the patient, models of the relationship with the patient) | 2 |
| L/S | Confidentiality of information and professional secrecy | 2/2 |
| L/S | Ethical aspects of informed consent, patient education, informed choice | 2/2 |
| L/S | Ethics committees and codes of ethics of health professions | 2/1 |
| L/S | Ethics of care, palliative care, ethical issues related to the end of life and death | 2/2 |

| | | |
|---|---|---|
| Format of instruction | ☒lectures<br>☒seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| Class attendance | | Research | | Practical training | | |
| Experimental work | | Report | | | | |
| Essay | | Seminar essay | 0.30 | (Other) | | |
| Tests | | Oral exam | | (Other) | | |
| Written exam | 1.20 | Project | | (Other) | | |

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Written exam | 40 | 80 |
| Practical training | 10 | 20 |
| **Total** | **50** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 60-69,9 | meets the minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

Required literature (available in the library and via other media)

| Title | Number of copies in the library | Availability via other media |
|---|---|---|
| Etika u: Beričić, B. Filozofija; sažeto e-izdanje. Ibis grafika Zagreb 2012. (str. 127.-153.) | | |
| Čović, A, Pojmovna razgraničenja: moral, etika, medicinska etika, bioetika, integrativna bioetika // Bioetika i dijete : Moralne dileme u pedijatriji / Čović, Ante ; Radonić, Marija (ur.). Zagreb: Pergamena ; Hrvatsko društvo za preventivnu i socijalnu pedijatriju, 2011. str. 11-24 | | |
| Tom L. Beauchamp, Načela u bioetici. Društvena istraživanja : časopis za opća društvena pitanja, Vol. 5 No. 3-4 (23-24), 1996. str. 533-544 | | |
| Svjetsko liječničko udruženje. Priručnik medicinske etike. Medicinska naklada Zagreb 2010. (str. 36.-61., 82.-93.) | | |
| Frković A. Medicina i bioetika. Pergamena Zagreb 1010. (str. 24,-27,, 129.-144., 152.-167.) | | |
| Švajger A. Medicinska etika: Priručno štivo. Sveučilište u Zagrebu, Medicisnki fakultet. Zagreb 1995. (str. 67.-75.) | | |
| Talanga, J. Odnos liječnika i pacijenta prema medicinskoj etici. Bogoslovska smotra, Vol. 76 No. 1, 2006. str. 47-59 | | |
| Pozaić V. Teološki vidici liječničke tajne. Obnov. Život (56) 4 (2001). str. 437-450 | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Physical Culture I** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ606** | Year of study | 1 | | | |
| Course teacher | Željko Kovačević, PhD<br>Assistant Professor | Credits (ECTS) | 1,5 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | T |
| | | | 3 | 8 | 14 | 38 |
| Status of the course | Mandatory | Percentage of application of e-learning | | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon completion of the course students will:<br>- Harmonize and improve physical and spiritual health<br>- Manage and improve the quality of healthy living |

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

| Format of instruction | Class unit | Class hour |
|---|---|---|
| T | Framework program; football, handball, volleyball, athletics, basketball, swimming | 10 |
| T | Special program; badminton, indoor football, beach volleyball, hiking, table tennis, water polo | 10 |
| T | Custom program: for students with disabilities | 10 |
| T | Elective programs for the competition | 8 |

| | | |
|---|---|---|
| Format of instruction | ☐ lectures<br>☐ seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>X field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screening student work *(name the proportion of ECTS credits for each* | Class attendance | 1,5 | Research | | Practical training | |
| | Experimental work | | Report | | | |

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

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Class attendance | 100 | 100 |
| **Total** | **100** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Grading (%) | Criteria | Grades |
|---|---|---|
| 60-69.9 | meets the minimum criteria | sufficient (2) |
| 70-79.9 | average success | good (3) |
| 80-89.9 | above-average success | very good (4) |
| 90-100 | outstanding success | excellent (5) |

**Required literature (available in the library and via other media)**

| Title | Number of copies in the library | Availability via other media |
|---|---|---|
| Mišigoj Duraković M.tjelesna aktivnost i zdravlje. Zagreb;Kineziološki fakultet; 1999 | | |

**Optional literature (at the time of submission of study programme proposal)**

**Quality assurance methods that ensure the acquisition of exit competences**

- Teaching quality analysis by students and teachers
- Exam passing rate analysis
- Committee for control of teaching reports
- External evaluation

**Other (as the proposer wishes to add)**

| NAME OF THE COURSE | English for Medical Laboratory Diagnostics I | | | | |
|---|---|---|---|---|---|
| **Code** | ZSL630 | Year of study | 1. | | |
| Course teacher | Sonja Koren, MA, Senior lecturer | Credits (ECTS) | 1,5 | | |
| Associate teachers | / | Type of instruction (number of hours) | L | S | E | T |
| | | | | 30 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | Prior knowledge of English language |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course students will be able to:<br>- develop language skills of speaking, listening, reading, and writing in the field of medical laboratory diagnostics,<br>- find relevant information, and formulate the key idea,<br>- recognize and explain medical terminology in the field of medical laboratory diagnostics,<br>- present topics in their professional field,<br>- develop communication skills in the field of medical laboratory diagnostics. |

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

| | | |
|---|---|---|
| S1 | Introduction | 2 |
| S2 | Organ systems of the Human Body I | 2 |
| S3 | Organ systems of the Human Body II | 2 |
| S4 | Suffixes, prefixes, and terminology | 2 |
| S5 | Composition and Formation of Blood I | 2 |
| S6 | Composition and Formation of Blood II | 2 |
| S7 | Blood Types | 2 |
| S8 | Blood Clotting | 2 |
| S9 | Anaemias | 2 |
| S10 | Medical Ethics | 2 |
| S11 | Research Studies and Articles | 2 |
| S12 | Epidemiology | 2 |
| S13 | Revision | 2 |
| S14 | Presentations of seminar papers | 2 |
| S15 | Presentations of seminar papers | 2 |

| | | |
|---|---|---|
| Format of instruction | ☐ lectures<br>x seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | In accordance to Rules of studying and Deontological code for USSM students. | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | 0,45 | (Other) | |
| | Tests | | Oral exam | | (Other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *ECTS value of the course)* | Written exam | 1,05 | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | Written exam | | | | | |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | Chabner DE. *The Language of Medicine*. 8th edition. St. Louis: Saunders Elsevier; 2007 | | |
| | Glendinning, E.H., Howard, R. *Professional English in Use - Medicine*. Cambridge: Cambridge University Press; 2007 (selected chapters) | | |
| | Žmegač Horvat A. Medical English Workbook. Medicinska naklada Zagreb (radna bilježnica) | | |
| Optional literature (at the time of submission of study programme proposal) | Režić P., Žurić-Havelka, S.: Introduction to Basic Medical Terminology for Health Professions, Zdravstveno sveučilište, Zagreb, 2013. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| **NAME OF THE COURSE** | **Health Care Psychology** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | ZSZ608 | Year of study | 1. | | | |
| Course teacher | Vesna Antičević, PhD, Associate professor | Credits (ECTS) | 2 | | | |
| Associate teachers | Slavica Kozina, PhD, Associate professor<br>Varja Đogaš, PhD, Assistant professor<br>Associates from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 14 | 12 | 18 | |
| Status of the course | Mandatory | Percentage of application of e-learning | To 10% | | | |
| **COURSE DESCRIPTION** | | | | | | |
| Course enrolment requirements and entry competences required for the course | 1. Introducing students to basic knowledge about the impact of psychological factors on health and illness, as well as the impact of illness and physical disorders on the development of psychological problems<br>2. To introduce students to the possibilities of applying psychological methods and techniques in health care, diagnosis, treatment and rehabilitation of diseases.<br>3. To demonstrate to students the application of interviews and communication skills on patients with various diseases | | | | | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon completion of the course the student will:<br>- recognize and understand the importance of psychology in health care,<br>- recognize and understand the characteristics of stress and adopt ways of coping with stress,<br>- recognize and understand the connection between physical illnesses and mental states and the influence of mental states on the occurrence of illness, | | | | | |

| | |
|---|---|
| | - recognize the psychosocial manifestations of chronic diseases,<br>- recognize positive and negative health behaviors,<br>- know the psychological difficulties of patients in the hospital,<br>- recognize psychological difficulties related to pregnancy and childbirth,<br>- know the psychological difficulties and interventions in rehabilitation processes after the loss of bodily functions<br>- know the techniques of psychological care in the health professions<br>- recognize the applicability of communication principles in contact with patients |

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

| Form of teaching | Topics | Student hours |
|---|---|---|
| L+S+E | Understanding the importance of psychology in health care, | 2+2+3 |
| L+S+E | History of health psychology, Health psychology and health behavior, Psychological healthcare | 2+2+3 |
| L+S+E | Physical illness and mental conditions<br>Psychological needs in diseases | 2+2+3 |
| L+S+E | Psychological reactions to loss of bodily functions<br>Qualities for psychological care | 2+2+3 |
| L+S+E | Psychological difficulties of patients in hospital<br>Models of psychological care | 2+2+3 |
| L+S+E | Stress and physical health<br>Strategies for coping with stress | 2+2+3 |
| L+S+E | Psychological manifestations of pregnancy and childbirth<br>Psychological care skills | 1+0+0 |
| L+S+E | Psychological care in health professions<br>Knowledge of psychological care | 1+0+0 |

| | | |
|---|---|---|
| Format of instruction | ☐x lectures<br>☐x seminars and workshops<br>☐x exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐x independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning | |

**Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)***

| | | | | | |
|---|---|---|---|---|---|
| Class attendance | | Research | | Practical training | |
| Experimental work | | Report | | | |
| Essay | | Seminar essay | 0,14 | (Other) | |
| Tests | | Oral exam | | (Other) | |
| Written exam | 1,86 | Project | | (Other) | |

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Written exam | 40 | 93,02 |
| Seminar essay (presentation…) | 3 | 6,98 |
| **Total** | **43** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|

| | | | |
|---|---|---|---|
| | 60-69,9 | meets the minimum criteria | sufficient (2) |
| | 70-79,9 | average success | good (3) |
| | 80-89,9 | above average success | very good (4) |
| | 90-100 | exceptional success | excellent (5) |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | Havelka Meštrović A., Havelka, M. (2020). Zdravstvena psihologija. Naklada Slap. Jastrebarsko, 1998. | | |
| | Class materials | | |
| Optional literature (at the time of submission of study programme proposal) | Priest, H. (2014). Uvod u psihološku njegu u sestrinstvu i zdravstvenim strukama<br>Marks, D. F., Murray, M., Evans, B., Estacio, E. V. (2011). Health Psychology. SAGE Publications Inc. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | Communication Skills | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ609** | Year of study | 1. | | | |
| Course teacher | Vesna Antičević, PhD<br>Associate professor | Credits (ECTS) | 2 | | | |
| Associate teachers | Endica Radić Hozo, PhD | Type of instruction (number of hours) | L | S | E | T |
| | | | 12 | 0 | 18 | |
| Status of the course | Mandatory | Percentage of application of e-learning | To 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon completion of the course the student will be able:<br>- to explain the basic laws of interpersonal communication,<br>- to understand the criteria for the division of communication according to the type and purpose of communication,<br>- to understand and explain the basics of information (diagnostic) communication,<br>- to understand and explain the basics of therapeutic communication,<br>- to improve basic communication skills,<br>- to develop complex communication skills for work in health care,<br>- to identify and resolve barriers to communication,<br>- to manage communication skills with people with disabilities and different ages,<br>- to identify and demonstrate basic barriers to communication with the patient and family member;<br>- to recognize and resolve simple complaints in relation to the patient and family members. |

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

| Form of teaching | Topic | Student hours |
|---|---|---|
| L+E | Introduction to communication skills | 2+3 |
| L+E | Information communication and interview technique<br>Therapeutic communication | 2+3 |
| L+E | Communication skills, abilities and prejudices<br>Complex communication skills: Active listening and emaphic listening | 2+3 |
| L+E | Assertiveness and communication with people with limited communication skills | 2+3 |
| L+E | Communication with people of different ages | 2+3 |
| L+E | Breaking bad news and griefing | 2+3 |

| | | |
|---|---|---|
| Format of instruction | x☐ lectures<br>☐ seminars and workshops<br>x☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0,14 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | | (Other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *total number of ECTS credits is equal to the ECTS value of the course)* | Tests | | Oral exam | | (Other) | |
| | Written exam | 1,86 | Project | | (Other) | |

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Attendance and activity on lectures and seminars (for 100% attendance) | 3 | 6,98 |
| Written exam | 40 | 93,02 |
| **Total** | **43** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 60-69,9 | meets the minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

Required literature (available in the library and via other media)

| **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|
| Lučanin, D., Despot Lučanin, J. (2010). Komunikacijske vještine u zdravstvu. Zdravstveno Veleučilište. Naklada Slap. Jastrebarsko. | | |
| Class materials | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | Knapp, M. L., Hall, J. A. (2010). Neverbalna komunikacija u ljudskoj interakciji. Naklada Slap. Jastrebarsko. |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Hygiene and Epidemiology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ610** | Year of study | 1 | | | |
| Course teacher | Assoc. Prof. Anamarija Jurcev Savicevic, MD, PhD | Credits (ECTS) | 3 | | | |
| Associate teachers | Full Professor Rosanda Mulic, MD, PhD<br>Assoc. Prof. Ingrid Tripković, MD, PhD<br>Asst. Prof. Iris Jerončić Tomić, MD, PhD<br>Asst. Prof Zlatka Knezović, PhD<br>Mentors from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 30 | 20 | 5 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, the student will be able to:<br>- identify and describe hygienic-epidemiological concepts, phenomena and problems in the community and explain the causes of certain diseases, as well as methods of their recognition (detection);<br>- group and differentiate diseases according to their epidemiological characteristics and identify infectious diseases in sporadic and epidemic forms<br>- analyze existing data of importance to the community and interpret the impact of certain preventive measures on the spread of these diseases over a period of time;<br>- plan, implement and evaluate general and specific prevention measures<br>- collect samples for laboratory tests, manipulate delivery, storage and distribution of vaccines (cold chain), apply epidemiological surveys and basic procedures of DDD measures<br>- explain methods of controlling nosocomial infections<br>- explain and identify sources of pollution (chemical, biological and physical)<br>- explain the importance and control of healthy water and food, as well as proper disposal of waste, especially medical and especially hazardous waste<br>- explain how to carry out and supervise sterilization and disinfection procedures<br>- demonstate keeping records and storing samples |

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

| Form of teaching | **Subject** | Student hours |
|---|---|---|
| L | General epidemiology | 3 |
| L,S | Epidemiological concepts and epidemiological measurements | 1,1 |
| L,S | Special epidemiology | 1,4 |
| L,S | Hygiene | 1,2 |
| L | Basic factors of the epidemic process | 1 |
| S | Epidemiological methods | 1 |
| L,S | Anti-epidemic measures and procedures | 1,1 |
| L | Epidemiology of infectious diseases | 1 |
| L,S | Routes of transmission of infectious diseases | 3, 1 |
| L,S | General measures for protection against infectious diseases | 1,1 |
| S,E | Specific protection measures against infectious diseases | 1,1 |
| E | Vaccinations and calendar of mandatory vaccinations | 1 |
| S | Law on Protection of the Population from Infectious Diseases and Rulebook on Suppression of Hospital Infections | 1 |
| L | International Sanitary Regulations | 1 |

| | | | |
|---|---|---|---|
| | L | Epidemiology of chronic mass noncommunicable diseases | 2,1 |
| | L,S | An ecological approach in understanding health and disease | 2,1 |
| | L,S,E | The most significant environmental and work environment factors that lead to disease | 6,3,1 |
| | L,S | Toxic damage and toxicological protection | 2,1 |
| | L,S,E | Assessment of individual risk factors in the environment and protection measures | 3,2,2 |
| | L,S | Basic legal provisions related to environmental protection and the Food Act | 1 |

| | | |
|---|---|---|
| Format of instruction | X lectures<br>X seminars and workshops<br>X exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 1 | Research | | Practical training | 0.5 |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | 0.5 | (Other) | |
| | Tests | | Oral exam | | (Other) | |
| | Written exam | 1 | Project | | (Other) | |

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Attendance and activity on lectures and seminars (for 100% attendance) | 20 | 20 |
| Written exam*** | 40 | 40 |
| Seminar essay | 20 | 20 |
| Practical training | 20 | 20 |
| **Total** | **100** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 60-69,9 | meets the minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Ropac D., Puntarić D, i sur. Epidemiologija zaraznih bolesti. Zagreb: Medicinska naklada; 2010. | | |
| | Kolčić I., Vorko Jović A. (Ur) Epidemiologija, Zagreb: Medicinska naklada; 2012. | | |
| | Puntarić D, Miškulin M, Bošnir J. Zdravstvena ekologija. Zagreb: Medicinska naklada; 2011. | | |
| Optional literature (at the time of | Jurčev Savičević A, Miše K. (ur). Tuberkuloza-stara dama u novom ruhu: Zagreb: Medicinska naklada, 2021. | | |

| | |
|---|---|
| submission of study programme proposal) | Internet and course materials |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Sociology of Health** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ611** | Year of study | 1. | | | |
| Course teacher | Ana Ćurković, PhD, Assistant professor | Credits (ECTS) | 1.5 | | | |
| Associate teachers | Ana Jeličić, PhD, Assistant professor | Type of instruction (number of hours) | L | S | E | T |
| | | | 20 | 12 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Under 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements. |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, the student will be able to:<br>- reproduce basic sociological knowledge for understanding the importance of social issues in medicine, health and health care, social policies in professional health care,<br>- conduct, at the individual level, an elementary analysis of observed political and social phenomena and connect the results of analyzes with the needs of their future profession,<br>- interpret basic knowledge of the principle of justice and equality in society and the importance of interdisciplinarity in the provision of health care,<br>- explain the historical sequence of origin and development of socio-medical determinants,<br>- explain the adopted basic sociological concepts that determine the position of man in society and the community,<br>- recognize the sociological importance of health care and the position of health care workers in society and the community,<br>- understand basic socio-medical criteria and research methods. |

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

| Type of instruction | Subject | Number of hours |
|---|---|---|
| L | Basic sociological concepts, the concept of sociology, the field of sociology, the scientific view of society | 1 |
| L | Sociology of health (medical sociology): history, definition, development, area of interest, topics, similarities and differences with other disciplines (social medicine and medical sociology) | 2 |
| L | Sociological theories of health and disease | 1 |
| L | Defining health and disease, normal and pathological | 2 |
| L/S | Social determinants of health and disease: class, age, gender, race and health, the role of culture in understanding health and disease | 2/2 |
| L/S | Social stratification: health and social inequalities | 2/2 |

| | | | |
|---|---|---|---|
| | L/S | Quality of life, health improvement, life satisfaction and health (work, leisure) | 1/2 |
| | L | Health behavior, patient role, roles and relationships of patient and health professionals | 1 |
| | L/S | Mental illness, labeling and stigma | 1/2 |
| | L/S | Social capital and health, stress and social support | 1/2 |
| | L | Health systems and medical professions | 1 |
| | L/S | Alternative and integrative medicine | 1/2 |
| | L | Individual health and community health | 2 |
| | L | Health promotion | 2 |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| Class attendance | | Research | | Practical training | | |
| Experimental work | | Report | | | | |
| Essay | | Seminar essay | 0.30 | (Other) | | |
| Tests | | Oral exam | | (Other) | | |
| Written exam | 1.20 | Project | | (Other) | | |

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Written exam | 40 | 80 |
| Seminar essay (presentation…) | 10 | 20 |
| **Total** | **50** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 60-69,9 | meets the minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Cerjan-Letica G, Letica S, Babić-Bosanac S, Mastilica M, Orešković S. Medicinska sociologija, Medicinska knjiga Zagreb, 2003. | | |
| | Štifanić M, Medicinska sociologija, Adamić, Rijeka, 2001. (str. 9.-65., 86.-108.) | | |
| | Orešković, S. Novi društveni ugovor: Medicinska sociologija i znanost o životu, M.A.K. Golden, Zagreb, 1997. (str. 153.-164.) | | |
| Optional literature (at the time of | | | |

| | |
|---|---|
| submission of study programme proposal) | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Public Health** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ613** | Year of study | 1. | | | |
| Course teacher | Assoc. Prof. Anamarija Jurcev Savicevic, MD, PhD | Credits (ECTS) | 1 | | | |
| Associate teachers | Full Professor Rosanda Mulic, MD, PhD<br>Asst. Prof. Iris Jerončić Tomić, MD, PhD<br>Asst. Prof. Ana Ćurković, MD<br>Asst. Prof. Željka Karin,MD, PhD<br>Asst. Prof. Ivana Marasović-Šušnjara, MD, PhD | Type of instruction (number of hours) | L<br>15 | S<br>5 | E | T |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |
| **COURSE DESCRIPTION** | | | | | | |
| Course enrolment requirements and entry competences required for the course | No requirements | | | | | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, the student will be able to:<br>- explain the basic concepts in the field of public health (health, health care system, health economy)<br>- identify and describe risk factors that affect health in all groups of society and analyze and relate the relationship between them<br>- describe the basic indicators of demographic vital statistics of the Republic of Croatia and basic health-statistical indicators of health and disease<br>- state the definition of health and disease, community health and define vulnerable groups<br>- distinguish the types of health care institutions and health activities and the level of health care<br>- assess the responsibility and competence of health professionals<br>- explain the validity of health care and health insurance<br>- explain the principles of community intervention and methods of health education and health promotion<br>- deal with health documentation and reports in health care and procedures with the same<br>- understand data secrecy and human rights<br>- describe the methods of social intervention in the field of social security, unemployment and health | | | | | |
| Course content broken down in detail | Type of instruction | Subject | | | Number of hours | |

| | | | |
|---|---|---|---|
| by weekly class schedule (syllabus) | L | The role and tasks of public health as part of unique medicine. Health, health standards | 2 |
| | L | Disease and the natural course of the disease | 2 |
| | L | Factors affecting the health of the individual and the community | 1 |
| | S | Community demographic health | 1 |
| | S | The impact of primary social communities on the health of the individual | 1 |
| | L | Basic skills of communication with the individual / patient | 2 |
| | L | Health and disease in the life cycle (childhood, adolescence, adulthood, old age) | 1 |
| | S | Minority and segregated groups | 1 |
| | L | Health behavior and principles of health education and health promotion | 2 |
| | S | Basics of recognizing the socio-medical needs of vulnerable groups | 2 |
| | L | Basic principles of medical ethics | 2 |
| | L | Health workers, Health insurance, Public and private health | 2 |

| | | |
|---|---|---|
| Format of instruction | X lectures<br>X seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

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

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Written exam | 50 | 50 |
| Attendance and activity on lectures and seminars (for 100% attendance) | 50 | 50 |
| **Total** | **100** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 60-69,9 | meets the minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

| | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| Required literature (available in the library and via other media) | Puntarić D, Ropac D, Jurčev Savičević A. i sur. Javno zdravstvo. Zagreb: Medicinska naklada; 2015 | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | Internet and course materials |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Biochemistry** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ614** | Year of study | 1 | | | |
| Course teacher | Full Prof. Irena Drmić Hofman, PhD | Credits (ECTS) | 2 | | | |
| Associate teachers | Ivana Franić, MSc | Type of instruction (number of hours) | L | S | E | T |
| | | | 20 | 10 | | |
| Status of the course | Essential | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon completion of the course the student will be able to:<br>- define electrolyte status<br>- distinguish isotonic solutions from hypo- and hypertonic solutions<br>- define the acid-base status and recognize the laws of buffer behavior into the human body<br>- explain the function of hemoglobin and the mechanism of oxygen transfer<br>- describe the action of enzymes and vitamins as precursors of coenzymes<br>- indicate the biochemical reactions in the metabolic pathways of catabolism and anabolism of carbohydrates, fats, and proteins<br>- explain the principles of action of hormones<br>- explain the biochemical mechanism of blood clotting<br>- state and explain the basic tests for the analysis of metabolic functions (glucose, cholesterol and triglycerides; urea, creatinine and urine)<br>- list and describe the principles of the basic tests of liver function (aminotransferase, GGT, LDH, bilirubin, albumin, basic coagulation tests) |

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

| Teaching Methods | Topic | No. of student hours |
|---|---|---|
| L/S | Fluid and electrolyte balance | 2/1 |
| L/S | Acidobase balance | 2/1 |
| L/S | Hemoglobin | 2/1 |
| L/S | Enzymes and vitamins as precursors of coenzymes | 2/1 |
| L/S | Metabolic fuels | 2/1 |
| L/S | Metabolism of carbohydrates | 2/1 |
| L/S | Metabolism of fats | 2/2 |
| L/S | Metabolism of proteins | 2/1 |

| | | | |
|---|---|---|---|
| L/S | Hormones | | 2/1 |
| L | Tests of basic metabolic functions | | 1 |
| L | Liver function tests | | 1 |

| | | |
|---|---|---|
| Format of instruction | x lectures<br>x seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

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

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

| Evaluation indicator | Success (points) | Share in the grade (%) |
|---|---|---|
| Written exam | 30 | 100 |
| **Total** | **30** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 60 - 69,9 | meets the minimum criteria | sufficient (2) |
| 70 – 79,9 | average success | good (3) |
| 80 – 89,9 | above-average success | very good (4) |
| 90 - 100 | exceptional success | excellent (5) |

| | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| Required literature (available in the library and via other media) | 1. Topić E, Primorac D, Janković S: Medical and Biochemical Diagnostics in Clinical Practice. Medicinska naklada, Zagreb, 2nd edition, 2018. | | |
| | 2. Harper's Illustrated Biochemistry, Medicinska naklada, Zagreb, 28 th edition Lange Medical Books / McGraw-Hill, 2009. (Croatian translation, 2011.) | | |
| Optional literature (at the time of submission of study programme proposal) | **Murphy MJ, Srivastava R, Deans K. Clinical Biochemistry, 6th Edition, Elsevier, 2018.** | | |
| Quality assurance methods that ensure | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis | | |

| | |
|---|---|
| the acquisition of exit competences | ▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Biophysics** | | | | | | |
|---|---|---|---|---|---|---|---|
| **Code** | **ZSZ615** | Year of study | 1 | | | | |
| Course teacher | Prof. Ivica Aviani, PhD | Credits (ECTS) | 2 | | | | |
| Associate teachers | Prof. Ante Bilušić, PhD<br>Mr. Darijo Radović, dr. med., senior lecturer | Type of instruction (number of hours) | L | S | E | T | |
| | | | 20 | 5 | | | |
| Status of the course | Compulsory | Percentage of application of e-learning | Up to 20 % | | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon completion and passing of the course, students are expected to be able to:<br>• interpret and use physical quantities and units used in biophysics.<br>• apply basic physical laws to describe the operation of medical devices.<br>• apply basic physical laws to describe the functioning of the human body.<br>• apply basic physical laws to describe the interaction of the human body with the environment.<br>• explain the principles of operation of basic medical devices.<br>• explain the physical principles of basic methods of medical diagnosis.<br>• - explain the effects of external energy sources on the human body. |

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

| Type of class | Subject | Number of hours |
|---|---|---|
| lecture | PHYSICAL QUANTITIES AND UNITS<br>- Introduction<br>- Fundamental and derived units of measurement<br>- Units of length, weight, mass, time | 1 |
| lecture | LAWS OF MOTION<br>- Speed and acceleration<br>- Newton's laws of motion<br>- Inertial forces | 2 |
| lecture | EFFECTS OF GRAVITATIONAL FORCES ON THE HUMAN BODY<br>- Center of gravity and equilibrium of the Body<br>- The law of leverage<br>- Density, sedimentation, centrifugation<br>- Influence of weightlessness and extreme gravity | 2 |
| lecture | WORK, POWER, ENERGY<br>- Work, power, energy<br>- Types and transformations of energy: application of conservation laws | 1 |
| lecture | PRESSURE IN THE HUMAN BODY<br>- Pressure: atmospheric, hydrostatic, hydraulic, osmotic<br>- Effect of extreme pressures, decompression | 2 |

| | | | |
|---|---|---|---|
| | | - Measurements of body pressure<br>- Arterial and venous blood pressure<br>- Eye pressure and intracranial pressure | |
| | lecture | FLUID MECHANICS<br>- Surface tension and capillary effects<br>- Fluid flow, viscosity, Bernoulli effect<br>- Cardiovascular system | 2 |
| | lecture | HEAT AND TEMPERATURE<br>- Heat: nature, measurement, specific heat<br>- Temperature scales<br>- Heat Transfer: Thermal conductors and insulators<br>- States of matter<br>- Evaporation, boiling, relative humidity<br>- Maintenance and regulation of body temperature | 2 |
| | lecture | SOUND AND HEARING<br>- Appearance of sound: sources and receivers<br>- Description of Sound Waves: Frequency, intensity, and speed<br>- Hearing threshold, noise, protection<br>- Use of ultrasound | 1,5 |
| | lecture | LIGHT AND SEEING<br>- Laws of propagation of light<br>- Elements of the eye, vision correction, use of lenses<br>- Biological effects of light<br>- Use of light in diagnosis and therapy | 1,5 |
| | lecture | ELECTRICITY AND MAGNETISM<br>- Voltage, current, resistance<br>- Electric current in solids, electrolytes, gasses and in vacuum<br>- Electrical properties of cells and tissues<br>- Membrane potentials, conductivity of nerves<br>- Electricity and the human body<br>- Rhythm generator and defibrillation<br>- EKG, EEG, EMG, EKT<br>- magnetotherapy | 2 |
| | lecture | ELECTROMAGNETIC RADIATION<br>- Electromagnetic waves<br>- Atomic structure and electronic transitions<br>- Electromagnetic radiation spectrum<br>- Ionizing and non-ionizing radiation<br>- The effect of radiation on the human body | 1 |
| | lecture | NUCLEAR DIAGNOSTICS AND THERAPY<br>- Structure of atoms and isotopes<br>- MRI<br>- Atomic energy, radioactivity<br>- Use of radioactive isotopes in medicine, PET<br>- radiation, unit and dose protection<br>- X-rays, CT | 2 |
| | seminar | Biophysical basics of haemorheology (pressures and volumes of blood in the vascular system) | 1 |
| | seminar | Biophysical basics of the physiology of seeing and hearing | 1 |
| | seminar | Electromagnetic radiation in medicine and radiation protection | 2 |
| | seminar | Biophysical basics of diagnostic methods | 1 |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety | ☐ independent assignments<br>☒ multimedia<br>☐ laboratory<br>☐ work with mentor |

| | | |
|---|---|---|
| | ☒ partial e-learning<br>☐ field work | ☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0.4 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | | Oral exam | | (Other) | |
| | Written exam | 1,6 | Project | | (Other) | |

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

| The final grade will constitute of | Percentage of grade (%) |
|---|---|
| Attendance and activity in lectures and seminars | 20 |
| Written exam | 80 |
| **Total** | **100** |

**SUCCESS AND ASSESSMENT RELATIONSHIP**

| Percentage of grade achieved (%) | Description of criteria | Grade |
|---|---|---|
| 60 – 69.9 | met minimum criteria | sufficient (2) |
| 70 – 79.9 | average success | good (3) |
| 80 – 89.9 | above average success | very good (4) |
| 90 - 100 | exceptional sucess | excelent (5) |

Required literature (available in the library and via other media)

| **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|
| Materials and presentations from lectures and seminars, Merlin, SRCE, 2021. https://moodle.srce.hr/2021-2022/ | | |
| Paul Davidovits, Physics in Biology and Medicine, 3rd ed, Academic Press, New York 2019. | | |
| I. Aviani and A.Bilušić, Fundamentals of Biophysics in Health Care, University of Split, under construction | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | B. Middleton, J. Phillips, R. Thomas, S. Stacey, Physics in Anaesthesia, Oxfordshire, United Kingdom, Scion Publishing Ltd.,2012. |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |

| | |
|---|---|
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Anatomy | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ616** | Year of study | 1. | | | |
| Course teacher | Prof. Ivica Grković, MD PhD | Credits (ECTS) | 3 | | | |
| Associate teachers | Prof. Ana Marušić, MD PhD<br>Prof. Katarina Vilović, MD PhD<br>Prof. Katarina Vukojević, MD PhD<br>Associates from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 26 | 20 | 20 | |
| Status of the course | Mandatory | Percentage of application of e-learning | 0% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Knowledge, to be able to:<br>- describe basic anatomy and structure of organs and organ systems<br>- analyse the structure of the human body and interpret the vital functions<br>- demonstrate the application of general anatomical principles and concepts to organs/organ systems<br>- recognize the importance of continuous revision of knowledge on the structure of the human body for the comprehension of teaching units in clinical medicine (in later years of study), as well as throughout their professional life. |

| Course content broken down in detail by weekly class schedule (syllabus) | | |
|---|---|---|
| 1. | Introduction and osteology 1 and 2 | |
| 2. | Joints 1 and 2 | |
| 3. | Muscular systems 1 and 2 | |
| 4. | Cardiovascular system | |
| 5. | Digestive system | |
| 6. | Respiratory system | |
| 7. | Urinary system | |
| 8. | Reproductive system | |
| 9. | Nervous system | |
| 10. | Sensory system | |
| | | |

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

| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning |
|---|---|

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

<table>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td>
<table>
<tr><th>Evaluation indicators</th><th>Success (points)</th><th>Share in overall grade (%)</th></tr>
<tr><td>Written exam</td><td>50</td><td>50</td></tr>
<tr><td>Total</td><td>50</td><td>100</td></tr>
</table>
PERFORMANCE AND GRADE RATIO
<table>
<tr><th>Achieved success percentage (%)</th><th>Criteria</th><th>Grade</th></tr>
<tr><td>60-69,9</td><td>meets the minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89,9</td><td>above average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>exceptional success</td><td>excellent (5)</td></tr>
</table>
</td></tr>
<tr><td>Required literature (available in the library and via other media)</td><td>
<table>
<tr><th>Title</th><th>Number of copies in the library</th><th>Availability via other media</th></tr>
<tr><td>Bajek, S; Bobinac, D; Jerković, R; Malnar, D. Sustavna anatomija čovjeka. Digital point tiskara. Rijeka, 2007.</td><td></td><td></td></tr>
<tr><td>Netter, F.H.: Atlas of Human Anatomy, ICON Learning Systems; 3rd Bk&Cdr edition, 2003</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td>Sobotta: Atlas anatomije čovjeka, Svezak 1 & 2, Naklada Slap, 2000<br>Bobinac D., Dujmović M.: Osnove anatomije, Glosa. Rijeka, 2003.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td>Regularity of attending classes:<ul><li>- lectures - at least 80% of all classes attended,</li><li>- seminars 90% and exercises 100%,</li><li>- active participation in classes.</li></ul></td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td></td></tr>
</table>

| NAME OF THE COURSE | Physiology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ617** | Year of study | 1. | | | |
| Course teacher | Assoc. Ante Obad, PhD, MD | Credits (ECTS) | 3 | | | |
| Associate teachers | Prof. Maja Valić, PhD, MD<br>Prof. Zoran Valić, PhD, MD | Type of instruction (number of hours) | L | S | E | T |
| | | | 30 | 7 | 10 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>- Describe main physiological processes at the cellular level, organsystems and organism as a whole<br>- Define normal functions of all organ systems of the human body: cardiovascular, hematopoietic, musculoskeletal, respiratory, digestive,uropoietic, immune, endocrine and nervous systems<br>- Explain and understand the interrelationships between individualorgan systems in the human body<br>- Interpret general response patterns of an organism<br>- Explain the basic principles of functional tests and identify deviations from normal values. |

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

| Type | THEME | Hours |
|---|---|---|
| P | Introduction to physiology (cell physiology and general physiology) | 2 |
| P | Muscle and neuromuscular transmission | 3 |
| P | Neuroscience | 3 |
| P | Heart | 4 |
| P | Human arterial and venous system | 3 |
| P | Kidneys | 3 |
| P | Erythrocytes and blood groups | 3 |
| P | Respiration | 3 |
| P | General principles of gastrointestinal function | 3 |
| P | Introduction to endocrinology | 3 |
| S | Cardiac output volume control | 2 |
| S | Tissue control of blood flow, regulation of circulation | 2 |
| S | Hemostasis and blood clotting | 1 |
| S | Blood pressure regulation | 2 |
| E | Pressure measurement | 3 |
| E | ECG recording and interpretation | 3 |
| E | Spirometry | 1 |
| E | Ultrasound in clinical practice | 3 |

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

<table>
<tr><td>Student responsibilities</td><td colspan="6">Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning</td></tr>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>1,5</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>1,5</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td></td><td colspan="6"></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">
<table>
<tr><th>Evaluation indicators</th><th>Success (points)</th><th>Share in overall grade (%)</th></tr>
<tr><td>Written exam</td><td>100</td><td>50</td></tr>
<tr><td>Total</td><td>100</td><td>100</td></tr>
</table>
RATIO OF SUCCESS AND EVALUATION
<table>
<tr><th>Achieved success percentage (%)</th><th>Criteria</th><th>Grade</th></tr>
<tr><td>60-69,9</td><td>meets minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-99,9</td><td>above average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>outstanding success</td><td>excellent (5)</td></tr>
</table>
</td></tr>
<tr><td>Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td></td><td colspan="3">Guyton AC, Hall JE. Medical Physiology. 11. ed.Zagreb: Medicinska naklada; 2006.</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">Materials distributed to students during lectures and exercises.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">Regularity of attending classes:<br>1. lectures - at least 80% of all classes attended,<br>2. seminars 90% and exercises 100%,<br>3. active participation in classes.</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Biology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | ZSZ618 | Year of study | 1. | | | |
| Course teacher | Sendi Kuret, PhD, Assistant Professor | Credits (ECTS) | 2 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | T |
| | | | 20 | 10 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After passing the exam the student will be able to:<br>- describe the structure of a eukaryotic cell and compare it with the structure of a prokaryotic cell,<br>- define and describe cell compartments and join them into a functional entirety,<br>- analyze and describe individual phases of the cell cycle and cell division,<br>- explain cell renewal, aging and cell death,<br>- explain the basic principles of genetics and solve simple tasks in this area. |

| Course content broken down in detail by weekly class schedule (syllabus) | L/S | Cell structure and function. Prokaryotes *vs* Eukaryotes. Cell chemistry. Macromolecules. | Hours |
|---|---|---|---|
| | L/S | Deoxyribonucleic acid – DNA. | |
| | L/S | Ribonucleic acid - RNA. Transcription. | |
| | L/S | The nucleus. DNA-RNA-Proteins. Translation. | |
| | L/S | Cell membrane-structure and transport. | |
| | L/S | Bioenergetics and metabolism. | |
| | L/S | Cytoskeleton and cell movement. | |
| | L/S | Cell cycle. Fertilization. | |
| | L/S | Basic principles of medical genetics. | |
| | L/S | Cell death and cell renewal. | |
| | | | |

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

| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning |
|---|---|

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0.4 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | 0,40 | (Other) | |
| | Tests | | Oral exam | | (Other) | |
| | Written exam | 1,20 | Project | | (Other) | |

| Grading and evaluating student | Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|---|

<table>
<tr><td>work in class and at the final exam</td><td>
<table>
<tr><td>Attendance and activity on lectures and seminars</td><td>20</td><td>20</td></tr>
<tr><td>Written exam</td><td>80</td><td>80</td></tr>
<tr><td>Total</td><td>100</td><td>100</td></tr>
</table>
<br>SUCCESS AND ASSESSMENT RELATIONSHIP
<table>
<tr><td>Percentage of grade achieved (%)</td><td>Description of criteria</td><td>Grade</td></tr>
<tr><td>60 – 69.9</td><td>met minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70 – 79.9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80 – 89.9</td><td>above average success</td><td>very good (4)</td></tr>
<tr><td>90 - 100</td><td>exceptional sucess</td><td>excelent (5)</td></tr>
</table>
</td></tr>
<tr><td>Required literature (available in the library and via other media)</td><td>
<table>
<tr><th>Title</th><th>Number of copies in the library</th><th>Availability via other media</th></tr>
<tr><td>Cooper GM, Hausman RE. The Cell, a Molecular Approach. 8th ed. Washington DC, Sunderland (Massachusetts): ASM Press, Sinauer Associates; 2019.</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td>Cox TM, Sinclair J. Molecular biology in medicine. Blackwell Science, 1997. Oxford, UK (selected chapters).</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td>▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td></td></tr>
</table>

| NAME OF THE COURSE | Embriology and Histology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ619** | Year of study | 1. | | | |
| Course teacher | Snježana Mardešić<br>Full professor | Credits (ECTS) | 2. | | | |
| Associate teachers | Associates in teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 20 | 10 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>- describe basic tissues of the human body<br>- explain the basic principles of histological structure of organ systems and basic histological techniques<br>- identify tissues in histological sections<br>- describe the structure and function of reproductive cells, reproductive glands and fertilisation<br>- explain the process of implantation and stages of development of the fetus till birth<br>- describe mechanisms of occurrence of congenital anomalies. |

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

| | Themes | Hours |
|---|---|---|
| L | Reproductive cells, menstrual cycle and fertilisation | 2 |
| L | Implantation, embryonic and fetal period, placenta | 2 |
| L, S | Congenital anomalies | 1, 1 |
| L, S | Histological techniques | 1, 1 |
| L, S | Epithelial and connective tissue | 1, 1 |
| L, S | Cartilage and bone tissue | 1, 1 |
| L, S | Muscle tissue | 2, 1 |
| L | Nervous tissue | 2 |
| L, S | Circulatory and immune system | 2 |
| L, S | Basic structure of the digestive system | 2, 1 |
| L, 2 | Respiratory system | 2, 1 |
| L, S | Endocrine system | 1, 2 |
| L, S | Urinary tract | 1, 1 |

| | | |
|---|---|---|
| Format of instruction | X lectures<br>X seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>X partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning. | |

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

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

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Written exam | 30 | 100 |
| **Total** | **30** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 60-69,9 | meets the minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

| | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| Required literature (available in the library and via other media) | Mirna Saraga-Babić, Livia Puljak, Snježana Mardešić, Sandra Kostić, Damir Sapunar. Embriologija i histologija čovjeka (za studente preddiplomskih sveučilišnih zdravstvenih studija). Split, 2014. Nakladnik: Sveučilište u Splitu. Dostupno na: https://www.webknjizara.hr/knjige/medicina/embriologija-i-histologija-covjeka-grupa-autora | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | 1. Sapunar D, Saraga Babić M. Histološki atlas – CD izdanje. Split: Medicinski fakultet u Splitu. Dostupno na: http://genom.mefst.hr/HistologyAtlas/index.htm<br>2. Lecture abstracts |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Basics of Nursing Care | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ620** | Year of study | 1. | | | |
| Course teacher | Prof. Julije Meštrović, MD, PhD | Credits (ECTS) | 1 | | | |
| Associate teachers | Diana Aranza, master of Nursing | Type of instruction (number of hours) | L | S | E | T |
| | | | 15 | 4 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | 1. To explain the nature, characteristics and principles of health care;<br>2. To explain health care related to meeting basic human needs;<br>3. To describe the admission, transfer and discharge of the patient;<br>4. To carry out a suitable disinfection and sterilization procedure;<br>5. To measure vital signs, notice deviations from normal values and to take appropriate interventions;<br>6. To assess bodily excretions, identify deviations and difficulties and apply appropriate interventions;<br>7. To apply enteral and parenteral therapy;<br>8. Planning and implementing care for a patient with cognitive-perceptual difficulties, an elderly patient, and a dying patient;<br>9. Conducting a physical examination of the patient<br>10. To properly write and process nursing documentation |

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

| Teaching methods | Topic | Number of student hours |
|---|---|---|
| L1 | Vital signs in children | 2 |
| L2 | Features and principles of health care<br>Admission, transfer and discharge of the patient from the health institution. | 2 |
| L3 | Basic human needs. | 2 |
| L4 | General infection prevention procedures. | 2 |
| L5 | Vital signs. | 3 |
| L6 | Body excretions. | 2 |
| L7 | Application of drugs. | 2 |
| S1-4 | Nursing care to maintain skin integrity. Nursing care for patients with cognitive-perceptual difficulties. Nursing care for elderly. Nursing care for dying patients. Nursing documentation. Providing nursing care for specific groups of patients. | 4 |

| | | |
|---|---|---|
| Format of instruction | X lectures<br>X seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>Xpartial e-learning<br>☐ field work | X independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

<table>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td></td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>0,33</td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>0,67</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td></td><td colspan="6"></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">
<table>
<tr><th>Evaluation indicators</th><th>Success (points)</th><th>Share in overall grade (%)</th></tr>
<tr><td>Written exam</td><td>40</td><td>66,67</td></tr>
<tr><td>Seminar essay (presentation…)</td><td>20</td><td>33,33</td></tr>
<tr><td>Total</td><td>60</td><td>100</td></tr>
</table>
PERFORMANCE AND GRADE RATIO
<table>
<tr><th>Achieved success percentage (%)</th><th>Criteria</th><th>Grade</th></tr>
<tr><td>60-69,9</td><td>meets the minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89,9</td><td>above average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>exceptional success</td><td>excellent (5)</td></tr>
</table>
</td></tr>
<tr><td rowspan="4">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="3">1. Čukljek S. Basics of Nursing care. University of Applied Health Sciences, Zagreb, 2005.</td><td></td><td></td></tr>
<tr><td colspan="3">2. Henderson, V. Basic Principles of Nursing Care. HUSE and HUMS, Zagreb 1994.</td><td></td><td></td></tr>
<tr><td colspan="3">3. Aranza D. Teaching materials.</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">1. Fučkar, G. Process of Nursing Care. School of Medicine of the University of Zagreb. Zagreb, 1992 (select chapters).<br>2. Fučkar, G. Nursing Diagnoses. HUSE. Zagreb 1992 (select chapters)</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Introduction to Laboratory Medicine | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL601** | Year of study | 1. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 4. | | | |
| Associate teachers | Esma Čečuk Jeličić, PhD, Assistant professor<br>Zlatka Knezović, PhD, Assistant professor<br>Sendi Kuret, PhD, Assistant professor<br>Vesela Torlak Lovrić, PhD, Assistant professor<br>Vanja Kaliterna, PhD, Assistant professor<br>Irena Drmić Hofman, PhD, Full professor with tenure<br>Davorka Sutlović, PhD, Full professor with tenure | Type of instruction (number of hours) | L | S | E | T |
| | | | 15 | 15 | 50 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Till 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | To explain development of medical laboratory diagnostics with a focus on development and application of new diagnostics. Acquired knowledge should enable students to understand the organization of work in laboratory medicine and duties and responsibilities of medical laboratory technologists. |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course student will be able to:<br>- Explain the course of development of medical laboratory diagnostics,<br>- Explain the processes and principles of medical laboratory diagnostics,<br>- Describe organization of work and implementation of protection in laboratories working with biological material,<br>- Describe collection and analysis of samples,<br>- Describe and perform blood sampling,<br>- Explain the importance of using an appropriate anticoagulant/tube<br>- Implement appropriate disinfection and sterilization procedure when collecting and processing the samples,<br>- Manage and keep records of the processed samples. |

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

| | | |
|---|---|---|
| | | |
| L,S | Development of medical laboratory diagnostics | 2,2 |
| L,S | Organization of work in the field of medical laboratory diagnostics | 2,2 |
| L,S,E | Biological materials, origin (blood, urine, faeces, sweat, saliva, cerebrospinal fluid, synovial fluid, tissue, hair) | 2,2,10 |
| L,S,E | Sampling and protection measures | 1,1,2 |
| L,S,E | Equipment and quality control procedures | 2,2,5 |
| L,S,E | Equipment and standard procedures for blood sampling | 2,2,10 |
| L,S,E | Sample preparation for analysis, transport and storage of samples | 2,2,13 |
| L,S,E | Preanalytical errors | 2,2,10 |

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

<table>
<tr><td>Student responsibilities</td><td colspan="6">Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning</td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>0,4</td><td>Research</td><td></td><td>Practical training</td><td>0,5</td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>0,5</td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td>1,2</td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>2,4</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">Written exam</td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td colspan="2">Availability via other media</td></tr>
<tr><td colspan="3">C.A. Burtis, E.R. Aschwood, D.E. Burns, ur. Tietz Textbook of Clinical Chemistry and molecular Diagnostics. 8. izdanje. St. Luis: Elsevier Saunders, 2018, odabrana poglavlja</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">E. Topić, D. Primorac, S. Janković, M. Stefanović i sur. Medicinskobiokemijska dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2018.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">J. Sertić i sur. Klinička kemija i molekularna dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2015.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">D. Čvorišćec, I. Čepelak Štrausova Medicinska biokemija, Medicinska naklada, Zagreb, 2009.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">A. Stavljenić Rukavina, D. Čvoriščec Organizacija i upravljanje u medicinskom laboratoriju Priručnik za trajno usavršavanje Hrvatske komore medicinskih biokemičara, Medicinska naklada Zagreb, 2004</td><td></td><td colspan="2"></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">W.G. Guder, S. Narayanan, H. Wisser, B. Zawta Diagnostic Samples: From the Patient to the Laboratory: The Impact of Preanalytical Variables on the Quality of Laboratory Results, 4th, Updated Edition, Git Vwerlag GMBH, 2009.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Mathematics | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL602** | Year of study | 1 | | | |
| Course teacher | Antonela Matana, PhD, Assistant Professor | Credits (ECTS) | 4 | | | |
| Associate teachers | - | Type of instruction (number of hours) | L | S | E | T |
| | | | 20 | 12 | 20 | |
| Status of the course | Essential | Percentage of application of e-learning | 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course student will be able to:<br>- Explain the application of mathematics in laboratory diagnostics,<br>- Develop accuracy in expressing mathematical facts,<br>- Apply the acquired knowledge and skills in mathematics and statistics required for completing professional courses,<br>- Develop a satisfactory technical level of calculus skills,<br>- Apply acquired skills in professional and scientific work,<br>- Explain summing up a large amount of data on the statistical population units in the form of statistical series,<br>- Use tabular and graphical display and analyze data using relative numbers and variables<br>- Use the processes of statistical inference for the entire statistical population on the ground of their variables based on the mathematical theory of random events and processes. |

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

| Format of instruction | Teaching unit | Class Hour |
|---|---|---|
| L,S,E | Basics of mathematical logic and Set theory, sets of numbers. | 4 |
| L,S,E | Real functions of one variable, property. Basic elementary functions. | 4 |
| L,S,E | Differential calculus. | 4 |
| L,S,E | Testing elementary real functions. | 4 |
| L,S,E | Introduction. Variables and measurement scales. Histogram and distribution. | 4 |
| L,S,E | Population, sample, statistical significance. | 4 |
| L,S,E | Medians and measures of variability. | 4 |
| L,S,E | Correlation between ordinal variables. | 4 |
| L,S,E | Confidence limits of the arithmetic mean. | 4 |
| L,S,E | Comparison between experimental arithmetic mean and standard value. | 4 |
| L,S,E | Comparison of samples whose property is measured on interval or ratio scale. | 4 |
| L,S,E | Distribution of errors. | 4 |
| L,S,E | Statistics of repeated measurements. | 4 |
| L,S,E | Comparison of samples whose property is measured on a nominal scale. | 4 |
| L,S,E | F-test for comparison of standard deviations, testing unusually large deviations. | 4 |
| L,S,E | Statistical analysis of the results of biological assays and tests. | 4 |

<table>
<tr><td>Format of instruction</td><td colspan="3">☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work</td><td colspan="3">☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="6">Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning</td></tr>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>0.5</td><td>Research</td><td></td><td>Practical training</td><td>0.5</td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>3.0</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">The final mark from the course is calculated from the points from the written exam (90%) and practicals (10%).<br><br>
<table>
<tr><th>Grading (%)</th><th>Criteria</th><th>Grades</th></tr>
<tr><td>60-69.9</td><td>meets the minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79.9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89.9</td><td>above-average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>outstanding success</td><td>oustanding (5)</td></tr>
</table></td></tr>
<tr><td rowspan="4">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="3">P. Javor, Uvod u matematičku analizu, Školska knjiga, Zagreb, 1993.; P.P. Demidović, Zadaci i riješeni primjeri iz više matematike, Zagreb, 1990.</td><td></td><td></td></tr>
<tr><td colspan="3">B.Petz, Osnovne statističke metode za nematematičare, Naklada Slap, Jastrebarsko, 1997.</td><td></td><td></td></tr>
<tr><td colspan="3">A. Škrbo, J. Pandžo, D. Završnik, Statistika za farmaceute, Farmaceutski fakultet, Sarajevo, 2004.</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">D. Vukičević, Uvod u statistiku, Sveučilište u Splitu, Split 2005.;Statistical analysis of results of biological assays and tests, u: European Pharmacopoeia, Fifth edition, Vol. 1, EDQM, Strasbourg, 2005.;<br>I. Slapničar, Matematika 1, skripta, FESB (2002).; S. Bolton, Pharmaceutical Statistics. Practical and Clinical Applications, Treće izd., Marcel Dekker, New York, 1997.;<br>L. Stefanini Orešić, V. Grdinić, Osnovni statističkih metoda u općoj i farmaceutskoj analitici, Farmaceutski glasnik, 34:2-3 (1978) 39-54;<br>Ferenczi E, Muirhead N. Doktor u jednom potezu: Statistika i epidemiologija. Zagreb: Medicinska naklada; 2012.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6">-</td></tr>
</table>

| NAME OF THE COURSE | General Chemistry and Stoichiometry | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL633** | Year of study | 1 | | | |
| Course teacher | Davorka Sutlović, PhD, Full professor with tenor | Credits (ECTS) | 4 | | | |
| Associate teachers | Ivana Franić, assistant | Type of instruction (number of hours) | L | S | E | F |
| | | | 30 | 20 | 15 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | Introducing students to the basic knowledge of general chemistry, principles and laws of chemistry that are the basis for mastering the materials of other, in the continuation of education, more complex areas of chemistry. |
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | - understanding of basic concepts and principles in the field of general chemistry,<br>- describe basic concepts in the field of composition and separation of substances, chemical elements and bonds,<br>- explain the structure of atoms and electronic configuration.<br>- explain the periodic table of elements and the classification of elements in the system.<br>- distinguish types of chemical bonds and their properties.<br>- calculate stoichiometric ratios in organic and inorganic substances |

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

| Course type | Teaching unit | Hours |
|---|---|---|
| L | Introduction to chemistry, units of measurement, types of substances and properties of substances | 3 |
| L/S | Atom, elements, periodic table of elements | 5,2 |
| L/S | Ionization energy, chemical bonds, electronegativity | 5,2 |
| L/S | Gases and solutions, gas laws | 2,2 |
| L/S | Types of solutions, expression of concentrations, influence of temperature and pressure on solubility | 4,3 |
| L/S | Chemical reactions, redox reactions | 4,3 |
| L/S | Kinetics of chemical reactions. Electrochemical reactions. | 3,3 |
| L/S | Stoichiometry. | 4,5 |
| E | Practicum exercises | 15 |

| Format of instruction | | |
|---|---|---|
| | ☒ lectures<br>☒ seminars and workshops<br>exercises<br>☐ *on line* in entirety<br>☒ partial e-learning<br>☐ field work | ☐independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | | Research | | **Practical work 0.5** | |
| | Experimental work | | Report | | (Other) | |
| | Essay | | Seminar essay | **0.5** | (Other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *total number of ECTS credits is equal to the ECTS value of the course)* | Tests | | Oral exam | | (Other) | |
| | Written exam | **3.0** | Project | | (Other) | |

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

| Verification indicators | Success (points) | Rating share (%) |
|---|---|---|
| Experimental work (practical exercises) | 5 | 12.5 |
| Seminar paper (presentation ) | 5 | 12.5 |
| Written exam (minimum pass rate on the test is 60% of correctly solved tasks) | 30 | 75 |
| **Total** | **40** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criterion | rating |
|---|---|---|
| 60-69,9 | meets minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | outstanding success | excellent (5) |

Required literature (available in the library and via other media)

| **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|
| Filipović, I., Lipanović, S., Opća i anorganska kemija I dio, Školska knjiga, Zagreb, 1995 | 3/15 | |
| Sikirica M. Stehiometrija, Školska knjiga, Zagreb,. XX. izdanje, 2008. | | |
| | | |

Optional literature (at the time of submission of study programme proposal)

Quality assurance methods that ensure the acquisition of exit competences

- Teaching quality analysis by students and teachers
- Exam passing rate analysis
- Committee for control of teaching reports
- External evaluation

Other (as the proposer wishes to add)

| NAME OF THE COURSE | Organic Chemistry | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL603** | Year of study | 1 | | | |
| Course teacher | Davorka Sutlović, PhD, Full professor with tenor | Credits (ECTS) | 4 | | | |
| Associate teachers | Ivana Franić, assistant | Type of instruction (number of hours) | L | S | E | F |
| | | | 30 | 20 | 15 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | To work independently in the organic laboratory. The course is the basis for understanding other courses, particularly Biochemistry.<br>Moreover, the acquired knowledge gives students the competence required for further education in organic chemistry at a higher level. |
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>- Explain the relationship within and between molecules;<br>- Develop precision in determining the names of individual organic compounds;<br>- Differentiate between optical and constitutional isomers;<br>- Differentiate between the electrophile and the nucleophile;<br>- Differentiate between addition and substitution;<br>- Interpret the reaction classification in organic chemistry;<br>- Know the acid-base balance;<br>- Develop a basis for understanding difference between carbohydrates;<br>- Develop a basis for understanding difference between simple and complex lipids;<br>- Explain the method of attachment of amino acids;<br>- Explain the structure of the protein;<br>- Explain the structure of nucleic acids and the difference between them. |

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

| Course type | Teaching unit | Hours |
|---|---|---|
| Lectures/Seminars | Bonds in molecules. Isomers: constitutional; Chirality and optical activity. | 2,1 |
| Lectures/Seminars | Intermolecular bonds | 1,1 |
| Lectures/Seminars | Functional groups and types of organic compounds - Nomenclature. | 2,1 |
| Lectures/Seminars | Isomers: constitutional; E- and Z-isomers; optical isomers. Chirality and optical activity. | 1,1 |
| Lectures/Seminars | Acid-base balance. | 2,1 |
| Lectures/Seminars | Electrophiles and nucleophiles. | 2,1 |
| Lectures/Seminars | Reaction classification in organic chemistry. | 1,1 |
| Lectures/Seminars | Alkanes and Alkenes. | 2,1 |
| Lectures/Seminars | Substitution. | 1,1 |
| Lectures/Seminars | Addition - electrophilic and according to the type of radical. | 2,1 |

| | | | |
|---|---|---|---|
| | Lectures/Seminars | Polymerization. | 1,1 |
| | Lectures/Seminars | Nucleophilic substitution at saturated carbon: SN1 and SN2-mechanisms. | 2,1 |
| | Lectures/Seminars | Elimination reactions. Alcohols. | 1,1 |
| | Lectures/Seminars | Carbonyl compounds - aldehydes and ketones. | 1,1 |
| | Lectures/Seminars | The nucleophilic addition to the carbonyl group. | 1,1 |
| | Lectures/Seminars | Carboxylic acids and derivatives. | 1,1 |
| | Lectures/Seminars | Nucleophilic substitution at the carbonyl group. | 1,1 |
| | Lectures/Seminars | Aromatic compounds. Electrophilic aromatic substitution. | 1,1 |
| | Lectures/Seminars | Heterocyclic compounds with oxygen, nitrogen and sulfur. | 1,1 |
| | Lectures | Carbohydrates -monosaccharides, oligosaccharides and polysaccharides. | 2 |
| | Lectures | Simple and complex lipids. | 2 |
| | Lectures/Seminars | Aminocarboxylic acids, peptides and proteins. Nucleic acids. | 2,1 |
| | exercises | | 3 |
| | exercises | | 3 |
| | exercises | | 3 |
| | exercises | | 3 |
| | exercises | | 3 |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>exercises<br>☐ *on line* in entirety<br>☒ partial e-learning<br>☐ field work | ☐independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Class attendance | | Research | | **Practical work 0.5** | |
| | Experimental work | | Report | | (Other) | |
| | Essay | | Seminar essay | **0.5** | (Other) | |
| | Tests | | Oral exam | **1.0** | (Other) | |
| | Written exam | **2.0** | Project | | (Other) | |

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

| Verification indicators | Success (points) | Rating share (%) |
|---|---|---|
| Experimental work (practical exercises) | 5 | 12.5 |
| Seminar paper (presentation ) | 5 | 12.5 |
| Written exam (minimum pass rate on the test is 60% of correctly solved tasks) | 30 | 75 |
| **Total** | **40** | **100** |

<table>
<tr><td></td><td>
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<table>
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<tr><th>Title</th><th>Number of copies in the library</th><th>Availability via other media</th></tr>
<tr><td>L.G. Wade, Jr. Organic chemistry, seventh Edition</td><td>3/15</td><td></td></tr>
<tr><td>Other materials: ppt on the Merlin platform</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td>T.W. Solomons & C.B. Fryhle: Organic chemistry, International Student Version (X. Ed.), John Wiley and Sons, Inc., New York, 2011.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td>
<ul>
<li>Teaching quality analysis by students and teachers</li>
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</ul>
</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td></td></tr>
</table>

| NAME OF THE COURSE | Analytical Chemistry | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL632** | Year of study | 1 | | | |
| Course teacher | Davorka Sutlović, PhD, Full professor with tenor | Credits (ECTS) | 4 | | | |
| Associate teachers | Ivana Franić, assistant | Type of instruction (number of hours) | L | S | E | F |
| | | | 30 | 20 | 15 | |
| Status of the course | Manadatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | The basic knowledge of analytical chemistry acquired in this course enables students to: work independently in the laboratory. Introducing students to the processing of measurement results, measurement quantities, expression of concentrations, stoichiometry and chemical equilibrium with emphasis on analytical application.<br>The course is the basis for understanding other courses, especially the courses of Organic Chemistry and Biochemistry. |
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Calculate pH value in simple and complex acid-base systems.<br>- calculate the redox equilibrium constant;<br>- explain the concept of solution and the concept of solubility,<br>- set and numerically solve analytical problems;<br>- assess the biochemical behavior of atoms, molecules and ions in the human body based on knowledge of their structure and the environment in which they are located;<br>- distinguish and know how to choose appropriate techniques in the analytical laboratory,<br>- determine the concentration of an unknown substance on the basis of known variables using a calibration diagram. |

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

| Course type | Teaching unit | Hours |
|---|---|---|
| L | Introduction, history and significance of analytical chemistry | 2 |
| L/S | Chemical reaction and equilibrium. Kinetics of chemical reactions. | 4,2 |
| L/S/E | Acid-base reactions and equilibria, buffers and acid strengths. Solutions | 4,2,2 |
| L/S | Enzyme kinetics. Electrochemical reactions, standard potential | 2,2 |
| L/S | Laboratory accessories and its application | 1,2 |
| L/S | Preparation of solutions of certain concentrations. | 2,3 |
| L/S/E | Balance of the analyte between the two phases, extraction of the substance | 2,2,2 |
| L/S/E | Quantitative chemical analysis - volumetric methods of neutralization and oxidoreduction and spectrophotometric analysis of iron mass in the sample. | 2,1,5 |
| L/S/E | Buffer capacity analysis. | 2,1,3 |
| L/S | Qualitative potentiometric analysis of amino acids. | 2 |
| L/S/E | Chromatography | 2,1,3 |
| L/E | Analysis of real biological samples | 4,5 |
| L/S | Basic principles of analytical techniques | 1,2 |

<table>
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<tr><td>Class attendance</td><td></td><td>Research</td><td></td><td>Practical work 0.5</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>0.5</td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
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<tr><td>Written exam (minimum pass rate on the test is 60% of correctly solved tasks)</td><td>30</td><td>75</td></tr>
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<tr><td>Nj. Radić, L. Kukoć Modun. Uvod u analitičku kemiju, Školska knjiga, Zagreb, 2016.</td><td>3/15</td><td></td></tr>
<tr><td>Sikirica M. Stehiometrija, Školska knjiga, Zagreb,. XX. izdanje, 2008.</td><td></td><td></td></tr>
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<tr><td>Other (as the proposer wishes to add)</td><td colspan="2"></td></tr>
</table>

| NAME OF THE COURSE | Clinical Skills I | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL605** | Year of study | 1. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 6. | | | |
| Associate teachers | Marija Banić, univ. bacc. med. lab. diagn.<br>Vladimira Martić, univ. bacc. med. lab. diagn.<br>Arijana Vuko, univ.bacc.med.lab.diagn.<br>Mirela Zec, dipl.eng.med.lab.diagn., lecturer<br>Tanja Visković, univ.bacc.med.lab.diagn.<br>Kristina Bedrina, univ.bacc.med.lab.diagn.<br>Mirjana Čorić Mesarić, univ.bacc.med.lab.diagn.<br>Robert Delaš, univ.bacc.med.lab.diagn.<br>Vesela Torlak Lovrić, , PhD, Assistant professor<br>(Sandra Šego, eng.med.lab.diagn.) | Type of instruction (number of hours) | L | S | PCE | CE |
| | | | 10 | 10 | 20 | 100 |
| Status of the course | Mandatory | Percentage of application of e-learning | Till 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | To explain the basic principles of skills in medical laboratory diagnostics. Acquired knowledge and skills should enable understanding of the basic principles of work in the laboratory and application of basic skills in laboratory diagnostic practice. |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Describe the organization of medical laboratory services based on people's needs<br>- Describe collection, processing and results of collected samples<br>- Explain the organization of medical biochemistry laboratories of different specialties<br>- Prepare the patient for blood sampling<br>- Collect and process data obtained from laboratory analysis |

| Course content broken down in detail by weekly class schedule (syllabus) | | |
|---|---|---|
| | | |
| L,S | Organization of medical laboratory services, collection, processing and storage of collected samples | 10,10 |
| E | Clinical skills in medical biochemistry laboratory | 60 |
| E | Clinical skills in transfusion center | 15 |
| E | Clinical skills in pathohistological laboratory | 15 |
| E | Clinical Skills in microbiological laboratory | 15 |
| E | Clinical skills in laboratory for nuclear medicine | 15 |

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

<table>
<tr><td>Student responsibilities</td><td colspan="6">Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning</td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>0,86</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td>5,14</td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td></td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">Written exam</td></tr>
<tr><td rowspan="5">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td colspan="2">Availability via other media</td></tr>
<tr><td colspan="3">C.A. Burtis, E.R. Aschwood, D.E. Burns, ur. Tietz Textbook of Clinical Chemistry and molecular Diagnostics. 8. izdanje. St. Luis: Elsevier Saunders, 2018, odabrana poglavlja</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">E. Topić, D. Primorac, S. Janković, M. Stefanović i sur. Medicinskobiokemijska dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2018.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">D. Čvorišćec, I. Čepelak Štrausova Medicinska biokemija, Medicinska naklada, Zagreb, 2009.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3"></td><td></td><td colspan="2"></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">W.G. Guder, S. Narayanan, H. Wisser, B. Zawta Diagnostic Samples: From the Patient to the Laboratory: The Impact of Preanalytical Variables on the Quality of Laboratory Results, 4th, Updated Edition, Git Vwerlag GMBH, 2009.</td></tr>
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<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Introduction to Scientific Work | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL621** | Year of study | 2. | | | |
| Course teacher | Davorka Sutlović, PhD, Full professor with tenor | Credits (ECTS) | 2 | | | |
| Associate teachers | Vjekoslav Krželj, PhD, Full professor with tenor<br>Frane Mihanović, PhD, Assistant professor<br>Sendi Kuret, PhD, Assistant professor<br>Ante Burger, PhD, Assistant professor<br>Diana Aranza, lecturer<br>Mario Marendić, lecturer<br>Mario Podrug, assistant | Type of instruction (number of hours) | L | S | E | F |
| | | | 6 | 10 | 12 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | To transfer to students knowledge from research methodology that will integrate with the acquired knowledge about the use of medical information and the application of statistical methods and procedures in medicine. Based on such integration, students will acquire basic knowledge and skills for research and use of professional and scientific literature. |
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing and passing the course, students will:<br>- Understand the sources and ways of creating real knowledge;<br>- Explain the different structures of health research;<br>- Understand the different ways of presenting the data collected in the research;<br>- Critically evaluate data views and critically analyze scientific reports on medical research. |

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

| Course type | Teaching unit | Hours |
|---|---|---|
| L/S | Scientific research | 2,1 |
| L/S | Hypothesis and statistical hypothesis | 1,1 |
| L/S | Types of research | 1,1 |
| L/S/E | Research planning | 1,1,2 |
| L/S/E | Interpretation of results | 1,1,2 |
| S/E | Data display | 2,1 |
| S/E | Scientific publication | 1,1 |
| S/E | Material of a scientific article | 1,2 |
| S/E | Publication of research | 1,2 |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ *on line* in entirety<br>☒ partial e-learning<br>☐ field work | ☐independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

<table>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>0.2</td><td>Research</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>1.0</td><td>Project</td><td>0.8</td><td>(Other)</td><td></td></tr>
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<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">
<table>
<tr><th>Verification indicators</th><th>Success (points)</th><th>Rating share (%)</th></tr>
<tr><td>Attendance and activity at lectures and seminars for 100% attendance</td><td>4</td><td>10</td></tr>
<tr><td>Project</td><td>16</td><td>40</td></tr>
<tr><td>Written exam (minimum pass rate on the test is 60% of correctly solved tasks)</td><td>20</td><td>50</td></tr>
<tr><td>Total</td><td>40</td><td>100</td></tr>
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<tr><td colspan="3">Marušić M, ed. Introduction to scientific work in medicine. 4th edition. Zagreb: Medicinska naklada; 2008</td><td>0</td><td>https://webknjizara.hr/</td></tr>
<tr><td colspan="3">Teaching materials for individual teaching units</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">1. Petz, B. Osnovne statističke metode za nematematičare. 5. izdanje. Jastrebarsko: Naklada Slap 2004.<br>1. Day RA, Gastel N. How to write and publish a scientific paper, 6th edition. Westport, Connecticut: Greenwood Press, 2006.<br>2. Lang T, Secic M. How To Report Statistics in Medicine: Annotated Guidelines for Authors, Editors, and Reviewers, 2nd edition. Philadelphia: American College of Physicians, 2006.<br>3. Ogrinc GS, Headrick LA. Fundamentals of Health Care Improvement. Oakbrook Terrace (Il): USA Joint Commission Resources, 2008.<br>Committee on Assessing Integrity in Research Environments. Integrity in Scientific Research. Washington DC: Institute of Medicine and National Research Council.</td></tr>
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<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Use of Scientific Technology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ622** | Year of study | 2. | | | |
| Course teacher | Antonela Matana, PhD<br>Assistant Professor | Credits (ECTS) | 1.5 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | T |
| | | | 10 | 12 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>- Identify the characteristics of successful innovations in scientific technology<br>- Explain the significance of use of artificial intelligence in medicine<br>- Give examples of innovations in several of the most advanced hospitals which will pervade the healthcare system in the future |

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

| Course type | Teaching unit | Hours |
|---|---|---|
| L,S | Characteristics and examples of technology trends in healthcare systems (VoIP, RFID, E-prescriptions, smartphones, etc.) | 7 |
| L,S | Artificial intelligence in medicine | 7 |
| L,S | Hospitals of the future (WiFi, voice recognition, digital pens, smart cards, memory devices, RFID, Web 2.0, open source code in medicine, Internet 2, biometrics) | 8 |

Format of instruction

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

| | |
|---|---|
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning |

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*

| | | | | | |
|---|---|---|---|---|---|
| Class attendance | 0,5 | Research | | Practical training | |
| Experimental work | | Report | | | |
| Essay | | Seminar essay | | (Other) | |
| Tests | | Oral exam | | (Other) | |
| Written exam | 1 | Project | | (Other) | |

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

| Verification indicators | Success (points) | Rating share (%) |
|---|---|---|
| Written exam | 100 | 100 |
| **Total** | **100** | **100** |

<table>
<tr><td></td><td colspan="3">RATIO OF SUCCESS AND EVALUATION<table><tr><td>Achieved success percentage (%)</td><td>Criterion</td><td>Rating</td></tr><tr><td>60-69,9</td><td>meets minimum criteria</td><td>sufficient (2)</td></tr><tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr><tr><td>80-89,9</td><td>above average success</td><td>very good (4)</td></tr><tr><td>90-100</td><td>outstanding success</td><td>excellent (5)</td></tr></table></td></tr>
<tr><td rowspan="2">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>Hoyt RE: Medical Informatics – A practical guide for healthcare professionals, 3rd edition, Medical Informatics Program, Pensacola, Florida, USA 2009 - poglavlja 9 i 21</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">Hoyt RE: Medical Informatics – A practical guide for healthcare professionals, 3rd edition, Medical Informatics Program, Pensacola, Florida, USA 2009 – poglavlja 1-8, 10-20</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

| NAME OF THE COURSE | Physical Culture II | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ623** | Year of study | 1 | | | |
| Course teacher | Željko Kovačević, PhD<br>Assistant Professor | Credits (ECTS) | 1,5 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | T |
| | | | 3 | 8 | 14 | 38 |
| Status of the course | Mandatory | Percentage of application of e-learning | | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon completion of the course students will:<br>- Harmonize and improve physical and spiritual health<br>- Manage and improve the quality of healthy living |

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

| Format of instruction | Class unit | Class hour |
|---|---|---|
| T | Framework program; football, handball, volleyball, athletics, basketball, swimming | 10 |
| T | Special program; badminton, indoor football, beach volleyball, hiking, table tennis, water polo | 10 |
| T | Custom program: for students with disabilities | 10 |
| T | Elective programs for the competition | 8 |

Format of instruction

| | |
|---|---|
| ☐ lectures<br>☐ seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>X field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |

| | |
|---|---|
| Student responsibilities | Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning |

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*

| | | | | | |
|---|---|---|---|---|---|
| Class attendance | 1,5 | Research | | Practical training | |
| Experimental work | | Report | | | |
| Essay | | Seminar essay | | (Other) | |
| Tests | | Oral exam | | (Other) | |
| Written exam | | Project | | (Other) | |

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

| Evaluation indicators | Success (points) | Share in overall grade (%) |
|---|---|---|
| Class attendance | 100 | 100 |
| **Total** | **100** | **100** |

**PERFORMANCE AND GRADE RATIO**

| Grading (%) | Criteria | Grades |
|---|---|---|
| 60-69.9 | meets the minimum criteria | sufficient (2) |
| 70-79.9 | average success | good (3) |

| | | | |
|---|---|---|---|
| | 80-89.9 | above-average success | very good (4) |
| | 90-100 | outstanding success | excellent (5) |

| | | | |
|---|---|---|---|
| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
| | Mišigoj Duraković M.tjelesna aktivnost i zdravlje. Zagreb;Kineziološki fakultet; 1999 | | |
| Optional literature (at the time of submission of study programme proposal) | | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | English for Medical Laboratory Diagnostics II | | | | | |
|---|---|---|---|---|---|---|
| **Code** | ZSL631 | Year of study | 2. | | | |
| Course teacher | Sonja Koren, MA, Senior Lecturer | Credits (ECTS) | 1,5 | | | |
| Associate teachers | / | Type of instruction (number of hours) | L | S | E | T |
| | | | | 30 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | Passed English for Medical Laboratory Diagnostics I |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course students will be able to:<br>- develop language skills of speaking, listening, reading, and writing in the field of medical laboratory<br>- use professional terminology in the field of medical laboratory diagnostics,<br>- understand professional literature in English,<br>- find, summarize, and present data and information in the field of medical Laboratory diagnostics. |

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

| | | |
|---|---|---|
| S1 | Introduction and Revision | 2 |
| S2 | A Microbiology Request Form | 2 |
| S3 | Terms used to describe lab results | 2 |
| S4 | Abbreviations | 2 |
| S5 | Diseases of Red Blood Cells | 2 |
| S6 | Diseases of White Blood Cells | 2 |
| S7 | Diseases of Bone Marrow Cells | 2 |
| S8 | Disorders of Blood Clotting | 2 |
| S9 | Laboratory Tests I | 2 |
| S10 | Laboratory Tests II | 2 |
| S11 | Clinical Procedures | 2 |
| S12 | Exercises | 2 |
| S13 | Revision | 2 |
| S14 | Presentations of seminar papers | 2 |
| S15 | Presentations of seminar papers | 2 |

| | | |
|---|---|---|
| Format of instruction | ☐ lectures<br>x seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | 0,45 | (Other) | |
| | Tests | | Oral exam | | (Other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *ECTS value of the course)* | Written exam | 1,05 | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | Written exam | | | | | |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | Chabner DE. *The Language of Medicine*. 8th edition. St. Louis: Saunders Elsevier; 2007 | | |
| | Glendinning, E.H., Howard, R. *Professional English in Use - Medicine*. Cambridge: Cambridge University Press; 2007 (selected chapters) | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | Režić P., Žurić-Havelka, S.: Introduction to Basic Medical Terminology for Health Professions, Zdravstveno sveučilište, Zagreb, 2013. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | Pathophysiology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ625** | Year of study | 2. | | | |
| Course teacher | Assist. Prof. Anteo Bradarić-Šlujo, MD, PhD | Credits (ECTS) | 2 | | | |
| Associate teachers | Prof. Tina Tičinović Kurir, MD, PhD<br>Assoc. Prof. Joško Božić, MD, PhD<br>Assist. Prof. Marino VIlović, MD, PhD<br>Assist. Prof. Mladen Krnić, MD, PhD<br>Marko Kumrić, MD | Type of instruction (number of hours) | L | S | E | T |
| | | | 30 | 8 | 0 | 38 |
| Status of the course | Essential | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | - explain and interpret general pathophysiological principles, actions, causes and ways of pathophysiological processes;<br>- describe and explain the general patterns of reaction of the organism to the damage;<br>- identify general ways of organ and tissue insufficiency;<br>- discuss the changes that occur in disorders of the control mechanisms of individual organ systems and the whole organism;<br>- describe and explain the clinical features associated with pathophysiological processes in various pathological conditions |

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

| | | |
|---|---|---|
| L1 | Disorders of energy metabolism | 2 |
| L2 | Pathophysiology of the respiratory system | 2 |
| L3 | Pathophysiology of chromosomal and genetic disorders | 2 |
| L4 | Disorders of acid-base balance | 2 |
| L5 | Pathophysiology of inflammation and infection | 2 |
| L6 | Disorders of carbohydrate and protein metabolism | 2 |
| L7 | Pathophysiology of endocrinopathies | 2 |
| L8 | Pathophysiology of malignant growth | 2 |
| L9 | Pathophysiology of cardiovascular disorders 1 | 2 |
| L10 | Pathophysiology of cardiovascular disorders 2 | 2 |
| L11 | Pathophysiology of circulatory collapse | 2 |
| L12 | Fluid and electrolyte disorders | 2 |
| L13 | Pathophysiology of anemia | 2 |
| L14 | Pathophysiology of gastrointestinal disorders | 2 |
| L15 | Disorders of energy metabolism | 2 |
| S1 | Coagulation disorders | 2 |
| S2 | Pathophysiology of the renal system | 3 |
| S3 | Repetition and integration | 3 |

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

<table>
<tr><td>Student responsibilities</td><td colspan="6">Regular class attendance.<br>Active participation in the teaching process.<br>Password for AAI EduHr electronic identity for access to e - learning.</td></tr>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>0.2</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>1.8</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">
<table>
<tr><th>Evaluation indicators</th><th>Success (points)</th><th>Share in overall grade (%)</th></tr>
<tr><td>Attendance and activity on lectures and seminars (for 100% attendance)</td><td>5</td><td>10</td></tr>
<tr><td>Written exam</td><td>45</td><td>90</td></tr>
<tr><td>Total</td><td>50</td><td>100</td></tr>
</table>
PERFORMANCE AND GRADE RATIO
<table>
<tr><th>Achieved success percentage (%)</th><th>Criteria</th><th>Grade</th></tr>
<tr><td>60-69,9</td><td>meets the minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89,9</td><td>above average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>exceptional success</td><td>excellent (5)</td></tr>
</table>
</td></tr>
<tr><td>Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td colspan="2">Availability via other media</td></tr>
<tr><td></td><td colspan="3">- Pathophysiology for higher medical schools: Gamulin S. Školska knjiga Zagreb, 2006.</td><td></td><td colspan="2"></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">- Harrison's Principles of Internal Medicine. 19. edition. 4. Croatian edition. Split: Placebo, 2019.<br>- Gamulin S, Kovač Z, Marušić M. Pathophysiology, VIII. edition. Medicinska naklada, Zagreb, 2018.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">- Students and lecturers' analysis of the quality of teaching,<br>- Analysis of the exam success rate,<br>- Reports of the Teaching Control Committee,<br>- External evaluation (visits by the quality control teams of the National Agency for Quality Control, participation in TEEP).</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Pathology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | ZSZ626 | Year of study | 2. | | | |
| Course teacher | Prof.dr.sc. Valdi Pešutić-Pisac | Credits (ECTS) | 2 | | | |
| Associate teachers | Prof.dr.sc. Šimun Anđelinović MDPhD ;<br>Associates from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 30 | 8 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | 1. To list the groups of pathological processes, to describe their etiopathogenetic mechanisms, to list their most important morphological features and to connect them with the elements of the clinical background.<br>2. To list the most important pathological entities within individual organ systems, to connect them with general features of pathological processes, to describe their morphological features specific to each organ system and to be able to apply acquired knowledge to individual clinical examples.<br>3. To list and describe individual methods of morphological diagnosis and their clinical use.<br>4. To list and describe the signs of death.<br>5. To describe the most significant features of individual stages of autopsy. |

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

| Form of teaching | General Pathology: | Hours number |
|---|---|---|
| P | Cellular adaptation | 2 |
| P | Cell injury and death | 2 |
| P | Acute and chronic inflamation | 2 |
| P,S | Reparation | 1,1 |
| P,S | Regeneration | 1,1 |
| P,S | Healing | 1,1 |
| P,S | Hemodynamic disorders | 1,1 |
| P,S | Genetic disorders | 1,1 |
| P,S | Diseases of immunity | 1,1 |
| P,S | Neoplasia | 2,2 |
| | Systemic Pathology: | |
| P | Cardiovascular pathology | 1 |
| P | Environmentalpathology | 1 |
| P | Lung pathology | 1 |
| P | Hemathopathology | 1 |
| P | Gastrointestinal pathology | 1 |
| P | Pathology of the Liver | 1 |
| P | And Pancreas | 1 |
| P | Kidney pathology | 1 |
| P | Genitourinary pathology | 1 |
| P | Breast pathology | 1 |
| P | Endocrine pathology | 1 |
| P | Skin pathology | 1 |
| P | Bone and joints pathology | 1 |
| P | Periferal nerves pathology | 1 |

| | | | |
|---|---|---|---|
| | P | Scelatal muscle pathology | 1 |
| | P | Central nervous systrem pathology | 1 |
| | | | |

| | | |
|---|---|---|
| Format of instruction | x lectures<br>x seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

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

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

| Verification indicators | Success (points) | Rating share (%) |
|---|---|---|
| Written exam | 50 | 100 |
| **Total** | **50** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criterion | Rating |
|---|---|---|
| 60-69,9 | meets minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | outstanding success | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | 1. Jakić Razumović J, Šarčević B, Seiwert S. Patologija, SLAP, Zagreb, 2009. | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | 1. 1. Damjanov I, Seiwerth S,Jukić S, Nola M. Patologija; 5.izdanje. Medicinska naklada , Zagreb, 2018 |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

<table>
<tr><td>NAME OF THE COURSE</td><td colspan="5">Microbiology and Parasitology</td></tr>
<tr><td>Code</td><td colspan="5">ZSZ627</td></tr>
<tr><td>Study program</td><td></td><td>Year of study</td><td colspan="3">2.</td></tr>
<tr><td>Course teacher</td><td>asst. prof. Vanja Kaliterna, M.D., PhD, clinical microbiology specialist</td><td>Credits (ECTS)</td><td colspan="3">2</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">asst. prof. Anita Novak, M.D., PhD, clinical microbiology specialist<br>asst. prof. Katarina Šiško Kraljević, M.D., PhD, clinical microbiology specialist<br>asst. prof. Merica Carev, M.D., PhD, clinical microbiology specialist<br>Associates from teaching bases</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>ME</td><td>LE</td><td>T</td></tr>
<tr><td>20</td><td>10</td><td></td><td></td><td></td></tr>
<tr><td>Status of the course</td><td>Mandatory</td><td>Percentage of application of e-learning</td><td colspan="3">Up to 10%</td></tr>
<tr><td colspan="6">COURSE DESCRIPTION</td></tr>
<tr><td>Objectives of the course</td><td colspan="5">1. To introduce students to the basics of microbiology and parasitology<br>2. To present students the biological properties of microorganisms that cause infections<br>3. To introduce students modes of infection transmitting caused by microorganisms<br>4. To present students human defend modes against infections<br>5. To present students methods for treating infectious diseases<br>6. To enable students to accept the principles of proper and safe laboratory work<br>7. To present students the methods of prevention of nosocomial infections</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="5">No requirements</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="5">After completing the course student will be able to:<br>- To identify and explain the biological properties of microorganisms that cause infectious diseases in humans, their pathogenicity factors and modes of transmission<br>- To use the acquired knowledge on the basics of human defense against infection<br>- To learn the mode of action of antimicrobial agents and the mechanisms of resistance of microorganisms to these agents<br>- To recognize and apply the basic principles of proper and safe laboratory work<br>- To apply disinfection and sterilization methods<br>- To explain and apply methods of prevention of nosocomial infections<br>- To explain the basics of laboratory diagnostics of pathogenic microorganisms and parasites<br>- To distinguish types of samples for microbiological processing, and apply the correct selection of individual types of samples from various organic systems<br>- To apply the acquired knowledge in the proper transport of the sample to the microbiological laboratory</td></tr>
</table>

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

| Form of teaching | Thematic units: | Number of student hours |
|---|---|---|
| P1 | Introduction to medical microbiology. Primarily sterile clinical specimens. Primarily non-sterile clinical specimens. | 3 |
| P2 | Disinfection and sterilization. Nosocomial infections. Control of nosocomial infections. Isolation measures. | 2 |
| P3 | Nonspecific and specific immunity. Humoral and cellular immunity. Primary and secondary immune response. | 2 |
| P4 | Bacterial infections of organ systems. | 3 |
| S1 | Collection of clinical material, transport, storage until seeding on nutrient media. Proper completion of accompanying referrals. Methods of direct bacteriological diagnostics. | 2 |
| P5 | Antimicrobial drugs. | 2 |
| S2 | Bacterial susceptibility testing to antimicrobial agents | 2 |
| P6 | Basic morphological characteristics of fungi. Diseases caused by fungi. Hospital infections caused by fungi. | 2 |
| S3 | Collection of clinical material for mycological diagnosis. Transport and storage. Laboratory diagnosis of mycosis. | 2 |
| P7 | General properties of parasites. Parasites important in human pathology. | 3 |
| S4 | Collecting of clinical material for parasitological diagnosis. Transport and storage. Methods of parasitological diagnostics. | 2 |
| P8 | General properties of the viruses. Viruses that cause diseases in humans. Methods of virological diagnosis. Viral nosocomial infections. | 3 |
| S5 | Virological diagnostics (collecting of clinical material for direct and indirect diagnosis, transport and storage). Virus isolation systems. Serological and molecular methods in microbiology. | 2 |

**Format of instruction:**

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

**Student responsibilities**

Attend classes ordinarily.
Actively participate in teaching activities.
Own an active password for AAI @ EduHr electronic identity (for access to e-learning)

**Screening student work** *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course):*

| | | | | | |
|---|---|---|---|---|---|
| Class attendance | 0,2 | Research | | Practical training | |
| Experimental work | | Report | | (other) | |
| Essay | | Seminar essay | | (other) | |
| Tests | | Oral exam | | (other) | |
| Written exam | 1,8 | Project | | (other) | |

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

| Verification indicators | Performance (points) | Rating share (%) |
|---|---|---|
| Attendance and activity at lectures and seminars for 100% attendance | 10 | 10.00 |
| Written exam | 90 | 90.00 |
| **Total** | **100** | **100.00** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criterion | Mark |
|---|---|---|
| 60 – 70.9 | meets the minimum criteria | sufficient (2) |
| 71 – 80.9 | average success | good (3) |
| 81 – 90.9 | above-average success | very good (4) |
| 91 - 100 | exceptional success | excellent (5) |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | Written materials (handouts) from lectures. | | on the website Merlin platform Course Clinical microbiology |
| | Kalenić S i sur.. Medicinska mikrobiologija. 2. izd. Zagreb:Medicinska naklada, 2019. | | |
| | Richter B. Medicinska parasitologija. 6. izd. Merkur A.B.D., 2002. | | |
| | Presečki V i sur. Virologija. Zagreb: Medicinska naklada; 2002. | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | Tonkić M., Dobec M., Abram M. i sur. Jawetz,Melnick & Adelberg Medicinska mikrobiologija. Split: Placebo, 2015.<br>Uzunović-Kamberović S, ur. Medicinska mikrobiologija. Zenica : Štamparija Fojnica, 2009. | | |
| Quality assurance methods that ensure the acquisition of exit competences | 1. Teaching quality analysis by students and teachers<br>2. Exam passing rate analysis<br>3. Committee for control of teaching reports<br>4. External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | Pharmacology | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ628** | Year of study | 2. | | | |
| Course teacher | Mladen Boban, MD<br>Full Professor | Credits (ECTS) | 2. | | | |
| Associate teachers | Ivana Mudnić, Associate Professor<br>Associates from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 28 | 8 | | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course students will be able to:<br>- explain the basics of pharmacology, the importance of recognising unwanted effects of drugs in the context of a competent member of the healthcare team, correct provision of information to the patient and possibilities of timely intervention<br>- explain the basic pharmacological concepts, mechanisms of action of drugs, pharmacological response factors, and the particularities of application of drugs in individual organ disorders<br>- differentiate between the desired and harmful effects of drugs, and understand the basic pharmacokinetics and pharmacodynamics of drugs most commonly used in their field of work<br>- identify pharmacokinetics and pharmacodynamics of major drug categories<br>- recognize the expected effects of drugs they encounter in their daily work, their side-effects and interactions |

| Course content broken down in detail by weekly class schedule (syllabus) | Type of instruction | Subject | Number of hours |
|---|---|---|---|
| | L, E | General pharmacology | 3,1 |
| | L, E | Drug research and clinical trials | 3,1 |
| | L, E | Antimicrobial drugs | 4,1 |
| | L, E | Allergic reactions | 3,1 |
| | L, E | Drug toxicity | 3,1 |
| | L, E | Analgesics and the pharmacology of pain | 4,1 |
| | L, E | Application of drugs in individual organ disorders (cardiovascular, digestive, central and autonomous nervous system and kidneys); | 5,1 |
| | L, E | Application of drugs during pregnancy and lactation. | 3,1 |

| Format of instruction | | |
|---|---|---|
| | X lectures<br>X seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0,2 | Research | | Practical training | |
| | Experimental work | | Report | | | |

<table>
<tr><td rowspan="3">activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>1,8</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">
<table>
<tr><th>Verification indicators</th><th>Success (points)</th><th>Rating share (%)</th></tr>
<tr><td>Class attendance</td><td>5</td><td>10</td></tr>
<tr><td>Written exam</td><td>45</td><td>90</td></tr>
<tr><td>Total</td><td>50</td><td>100</td></tr>
</table>
RATIO OF SUCCESS AND EVALUATION
<table>
<tr><th>Achieved success percentage (%)</th><th>Criterion</th><th>Rating</th></tr>
<tr><td>60-69,9</td><td>meets minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89,9</td><td>above average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>outstanding success</td><td>excellent (5)</td></tr>
</table>
</td></tr>
<tr><td>Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td colspan="2">Availability via other media</td></tr>
<tr><td></td><td colspan="3">Abstracts of lectures and exercises, (textbook in preparation)</td><td></td><td colspan="2"></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">Bulat, M., Geber, J., Lacković, Z. Medicinska farmakologija. Zagreb, Medicinska naklada, 2001.<br>Farmakologija, Rang HP,Dale MM,Ritter JM, Moore PK (urednici), Golden Marketing, Zagreb, 2006.<br>Pharmacology in Nursing, McKerny&Salerno (urednici), Mosby, StLouis, 2003.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Basics of Haematology and Coagulation | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL606** | Year of study | 2 | | | |
| Course teacher | Assistant professor; Esma Čečuk, PhD | Credits (ECTS) | 5 | | | |
| Associate teachers | Davor GalušiĆ, MD, Višnja Armanda, MD; Slavica Dajak, MD; Leida Tandara, Univ. Spec. in Medical Biochemistry; Branka Krešić Univ. Spec. in Medical Biochemistry ; Nada Bilopavlović, , Univ. Spec. in Medical Biochemistry | Type of instruction (number of hours) | L | S | E | T |
| | | | 30 | 20 | 35 | |
| Status of the course | Manadatory | Percentage of application of e-learning | 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements. |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>• Explain the structure of normal erythropoiesis;<br>• Explain development of cell population of erythrocytes, granulocytes and lymphocytes;<br>• Explain cytological characteristics of peripheral blood cells in physiological conditions and hematologic disorders;<br>• Explain etiopathogenesis of anaemia, benign and malignant diseases of granulocytes and lymphocytes;<br>• Link quantitative and qualitative changes in platelets with haemostasis;<br>• Explain the process of blood coagulation and fibrinolytic processes;<br>• Use the acquired knowledge of haematology and haemostasis in laboratory diagnostics. |

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

| | | |
|---|---|---|
| L | Normal erythropoesis structure | 2 |
| L | Anaemia etiopathogenesis | 2 |
| L | Sideropenic anaemia and iron metabolism | 2 |
| L | Qualitative and quantitative trombocyte disorders | 2 |
| L | Monocyte, granolcyte and macrophage disorders | 2 |
| L | Leukemia and limphomas | 2 |
| L | Blood clotting and fibrinolysis | 2 |
| L | HLA system in haematology | 4 |
| L | Flow cytometry – limphocyte imunophenotyping | 2 |
| L | Imunohaematology in transfusion medicine | 2 |
| L | Trombophilia | 2 |
| L | Alogenic stem cell transplantation | 2 |
| L | Autologous stem cell transplantation | 2 |
| L | Coagulation laboratory tests and their interpertation | 2 |
| S | Haemophilia and other haemostasis disorders | 2 |
| S | Coagulation tests – case reports and interpretation | 2 |
| S | Immunodeficiencies | 2 |
| S | Haemostasis disorders in clinical practice | 2 |
| S | Anaemia diagnostics and non-immune haemolitic anaemias | 2 |
| S | Leukemia diagnostics | 2 |
| S | Emergency coagulation diagnostics | 2 |
| S | Blood transfusion | 2 |
| S | Clinical relevances of blood antigene antibodies | 2 |

| | | | |
|---|---|---|---|
| | S | Leucocyte and trombocyte antibodies diagnostics | 2 |
| | E | Department of Biochemistry and Laboratory Medicine - Firule | 3 |
| | E | Department of Biochemistry and Laboratory Medicine - Križine | 8 |
| | E | Tissue Typing Laboratory | 9 |
| | E | Clinic for Children Diseases | 15 |

| | | |
|---|---|---|
| Format of instruction | ☑ lectures<br>☑ seminars and workshops<br>☑ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☑ independent assignments<br>☐ multimedia<br>☑ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Class attendance | 0,33 | Research | | Practical training | |
| | Experimental work | 0,2 | Report | | | |
| | Essay | | Seminar essay | 0,33 | (Other) | |
| | Tests | 0,13 | Oral exam | | (Other) | |
| | Written exam | 4 | Project | | (Other) | |

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

| Achieved success percentage (%) | Grading criteria | Grade |
|---|---|---|
| 65-74 | meets minimum criteria | sufficient (2) |
| 75-82 | average success | good (3) |
| 83-92 | above average success | very good (4) |
| 93-100 | exceptional success | excellent (5) |
| **RATIO OF SUCCESS AND EVALUATION** | | |

| Verification indicators | Performance (points) | Share in grade (%) |
|---|---|---|
| Class attendance and activity | 5 | 6,67 |
| Seminar essay | 5 | 6,67 |
| Experimental work | 3 | 4 |
| Essay | 2 | 2,67 |
| Written exam | 60 | 80 |
| **In total** | **75** | **100** |

Required literature (available in the library and via other media)

| Title | Number of copies in the library | Availability via other media |
|---|---|---|
| Elizabeta Topić , Dragan Primorac i Stipan Janković i suradnici ; Medicinsko- biokemijska dijagnostika u kliničkoj praksi, Medicinska Naklada , Zagreb, 2004 | | |
| Boris Labar , Erik Hauptman i suradnici, Hematologija; Školska knjiga 2007 | | |
| | | |

Optional literature (at the time of submission of study programme proposal)

- Čulić Srđana, Nakić Melita, Aurer Igor. Sideropenična anemija, Medicinska naklada, Zagreb 2006.
- Andreis I, Batinić D, Čulo F, Grčević D, Marušić M, Taradi M, Višnjić D. Imunologija. Medicinska naklada, Zagreb, 2004, VI. izdanje

Quality assurance methods that ensure

- Teaching quality analysis by students and teachers
- Exam passing rate analysis

| | |
|---|---|
| the acquisition of exit competences | ▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Physical Methods in MLD** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL607** | Year of study | 2. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 3. | | | |
| Associate teachers | Leida Tandara, PhD, Assistant professor<br>mag. Lada Stanišić, European Specialist in Laboratory Medicine (EuSpLM)<br>Ivana Franić, prof., Teaching assistant | Type of instruction (number of hours) | L | S | E | T |
| | | | 15 | 10 | 30 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Till 10% | | | |
| **COURSE DESCRIPTION** | | | | | | |
| Course enrolment requirements and entry competences required for the course | No requirements | | | | | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>- Explain and perform pre-analytical phase (collection, handling, processing, transportation)<br>- Explain and apply the laws of light absorption in spectrophotometric methods<br>- Explain and manage the optical measurement methods of turbidity of colloidal systems<br>- Explain, manage and perform method of determining the hydrogen ion concentration, *direct* potentiometry<br>- Explain, relate and manage the principles of refractometry<br>- Explain, relate and manage the principles of cryoscopy, colligative properties<br>- Explain, relate and manage the principles of immunoassay technique<br>- Explain, relate and manage the principles of electrophoretic and chromatographic techniques<br>- Explain, relate and implement the preparation of calibration lines in the analytical procedure<br>- Explain, relate and calculate the factor for calculating the analyte concentration from a given standard concentration | | | | | |

| Course content broken down in detail by weekly class schedule (syllabus) | | | |
|---|---|---|---|
| | | | |
| | L,S,E | The laws of light absorption | 2,1,4 |
| | L,S,E | The laws of emission analysis. Ion selective electrode. | 2,2,5 |
| | L,S,E | Nephelometry and turbidimetry. Refractometry | 1,2,4 |
| | L,S,E | Fluorimetry, fluorescence and phosphorescence | 3,1,5 |
| | L,S,E | Electrophoresis, electrofocusing, immunoelectrophoresis | 3,2,6 |
| | L,S,E | Chemiluminescence and bioluminescence, theory and application | 4,2,6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| Format of instruction | x lectures<br>x seminars and workshops<br>x exercises<br>☐ *on line* in entirety<br>x partial e-learning<br>☐ field work | | | x independent assignments<br>☐ multimedia<br>x laboratory<br>☐ work with mentor<br>☐ (other) | | |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | | | | | |
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Class attendance | 0,15 | Research | | Practical training | 0,45 |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | 0,9 | Oral exam | | (Other) | |
| | Written exam | 1,5 | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | Written exam | | | | | |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | P. W. Atkins, J. de Paula, J. Keeler. Physical Chemistry, 11th edition, 2017, Oxford University Press. | | |
| | P. W. Atkins, J. de Paula Physical Chemistry For The Life Sciences, 2. izdanje, 2010, Oxford University Press. | | |
| | P. W. Atkins, J. de Paula Physical Chemistry, 10. izdanje, 2014, Oxford University Press. | | |
| | C. A. Trapp, M. P. Cady, C. Giunta Students' Solutions Manual To Accompany Atkins' Physical Chemistry, 9. izdanje, 2011, Oxford University Press. | | |
| | R. K. Murray i sur.: Harperova ilustrirana biokemija, prijevod 28th izdanja; Medicinska naklada, Zagreb, 2011. | | |
| | A. Stavljenić Rukavina i sur. u: S. Janković, D. Eterović Fizikalne osnove i klinički aspekti medicinske dijagnostike, Zagreb, Medicinska naklada, 2002. | | |
| | B. Štraus, A. Stavljenić Rukavina, F. Plavšić Analitičke tehnike u kliničkom laboratoriju, Medicinska naklada, Zagreb, 1997., odabrana poglavlja | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | C.A. Burtis, E.R. Aschwood, D.E. Burns, ur. Tietz Textbook of Clinical Chemistry and molecular Diagnostics. 8. izdanje. St. Luis: Elsevier Saunders, 2018, odabrana poglavlja |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Biochemistry II | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL608** | Year of study | 2 | | | |
| Course teacher | Prof. Irena Drmić Hofman, PhD | Credits (ECTS) | 6 | | | |
| Associate teachers | Assist. Prof. Daniela Šupe Domić, PhD, MSc<br>Assist. Prof. Nada Bilopavlović, PhD, MSc<br>Assist. Prof. Sendi Kuret, PhD, MSc<br>Lada Stanišić, MSc Biochem. Lab. Med.<br>Ivana Franić, MSc | Type of instruction (number of hours) | L | S | E | T |
| | | | 40 | 20 | 20 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | - explain the biochemical mechanisms for maintaining acid-base balance and blood sugar levels in the human body<br>- explain the structure and function of the most important biochemical compounds: carbohydrates, proteins and fats<br>- describe the connection between energy production and the function of individual organs and metabolic pathways in the human body<br>- define the most important metabolic pathways in the metabolism of carbohydrates, lipids and proteins and clarify the way of their regulation<br>- explain the functions and method of synthesis of macromolecules (DNA and RNA)<br>- clarify the connection between the structure of membranes with the action of hormones and signal transmission<br>- define nutritional needs in nutrition and relate them with the metabolism of a healthy person<br>- indicate the most important laboratory methods for determining important diagnostic parameters<br>- perform basic methods of analysis in laboratory diagnostics (acid-base status, spectrophotometry, electrophoresis, chromatography) |

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

| Teaching Methods | Topic | No. of student hours |
|---|---|---|
| L1 | Introduction to metabolism: biochemistry and medicine | 1 |
| L2 | Acid-base balance | 1 |
| L3 | Amino acids and peptides. Determination of primary protein structure | 1 |
| L4 | Proteins: higher levels of structure; myoglobin and hemoglobin; collagen | 2 |
| L5 | Enzymes: mechanism of action, kinetics and regulation of activity | 1 |
| L6 | Bioenergetics: the role of ATP and biological oxidation | 1 |
| L7 | Respiratory chain and oxidative phosphorylation | 2 |
| L8 | Physiologically significant carbohydrates | 1 |
| L9 | Physiologically significant lipids | 1 |
| L10 | Review of metabolism and metabolic fuels reserves | 1 |
| L11 | Glycolysis and oxidation of pyruvate | 2 |

| | | | |
|---|---|---|---|
| | L12 | Citric acid cycle: acetyl coenzyme A catabolism | 2 |
| | L13 | Glycogen metabolism | 1 |
| | L14 | Gluconeogenesis and blood glucose regulation | 2 |
| | L15 | Pentose phosphate pathway and other hexose metabolism pathways | 1 |
| | L16 | Fatty acid oxidation: ketogenesis | 2 |
| | L17 | Biosynthesis of fatty acids and eicosanoids | 1 |
| | L18 | Biosynthesis of fatty acids and eicosanoids | 1 |
| | L 19 | Lipid transfer and storage | 2 |
| | L 20 | Cholesterol synthesis, transport and excretion | 2 |
| | L 21 | Biosynthesis of non-essential amino acids | 1 |
| | L 22 | Catabolism of protein and nitrogen and carbon chain amino acids | 1 |
| | L 23 | Porphyrins and bile dyes | 1 |
| | L 24 | Metabolism of purines and pyrimidines | 1 |
| | L 25 | Structure, function and replication of macromolecules. Protein synthesis | 2 |
| | L 26 | Membranes: structure and function | 1 |
| | L 27 | Diversity of the endocrine system | 1 |
| | L 28 | Hormone action and signal transduction | 1 |
| | L 29 | Nutrition, digestion, absorption; Vitamins and minerals | 2 |
| | L 30 | Integration of metabolism | 2 |
| | S1/E1 | Acid-base balance | 2/3 |
| | S2/E2 | Determination of saliva pH | 1/3 |
| | S3/E3 | Determination of salivary amylase activity | 1/3 |
| | S4/E4 | Alkaline phosphatase: determination of $K_m$ and $v_{max}$ in the presence of inhibitors | 1/3 |
| | S5/E5 | Determination of blood glucose concentration | 1/3 |
| | S6/E6 | Determination of hemoglobin HbA1c by ion exchange chromatography | 1/3 |
| | S7/E7 | Determination of HDL-cholesterol | 1/3 |
| | S8/E8 | Determination of iron and serum iron binding capacity | 1/3 |
| | S9/E9 | Serum protein electrophoresis | 1/3 |
| | S10/E10 | Nucleic acid electrophoresis | 1/3 |
| | S11/E11 | Determination of salivary cortisol concentration | 2/3 |
| | S12/E12 | Determination of physical, chemical properties and pathological components of urine | 1/3 |
| | S13/E13 | Determination of creatinine clearance in 24-hour urine | 1/3 |
| | S14/E14 | Determination of conjugated and unconjugated serum bilirubin | 1/3 |
| | S15/E15 | Determination of primary hemostasis parameters | 2/3 |
| | S16 | Specificities of samples in the biochemical laboratory and possible sources of interference | 2 |

| | | |
|---|---|---|
| Format of instruction | x lectures<br>x seminars and workshops<br>☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process | |

| | |
|---|---|
| | Password for AAI EduHr electronic identity to access e-learning |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | | Research | | Practical training | |
| | Experimental work | 0,6 | Report | | | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | | Oral exam | 1,8 | (Other) | |
| | Written exam | 3,6 | Project | | (Other) | |

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

| Evaluation indicator | Success (points) | Share in grade (%) |
|---|---|---|
| Experimental work (practicals) | 10 | 10 |
| Written exam *** | 60 | 60 |
| Oral exam | 30 | 30 |
| **Total** | **100** | **100** |

***** The written exam can be taken partially, in two parts or at once**

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|
| 65-74 | meets the minimum criteria | sufficient (2) |
| 75-82 | average success | good (3) |
| 83-92 | above-average success | very good (4) |
| 93-100 | exceptional success | excellent (5) |

**Required literature (available in the library and via other media)**

| **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|
| 1. Topić E, Primorac D, Janković S: Medical and Biochemical Diagnostics in Clinical Practice. Medicinska naklada, Zagreb, 2nd edition, 2018. | | |
| 2. Harper's Illustrated Biochemistry, Medicinska naklada, Zagreb, 28 th edition Lange Medical Books / McGraw-Hill, 2009. (Croatian translation, 2011.) | | |

**Optional literature (at the time of submission of study programme proposal)**

**Murphy MJ, Srivastava R, Deans K. Clinical Biochemistry, 6th Edition, Elsevier, 2018.**

**Quality assurance methods that ensure the acquisition of exit competences**

- Teaching quality analysis by students and teachers
- Exam passing rate analysis
- Committee for control of teaching reports
- External evaluation

**Other (as the proposer wishes to add)**

| NAME OF THE COURSE | Cell Biology with the Basics Of Genetics | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL609** | Year of study | 2. | | | |
| Course teacher | Assistant professor Sendi Kuret, phd. | Credits (ECTS) | 4. | | | |
| Associate teachers | / | Type of instruction (number of hours) | L | S | E | T |
| | | | 30 | 30 | 25 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | Introduce students to the basic genetic principles of inheriting monogenic and polygenic diseases. Introduce students to molecular biology techniques used in scientific studies. Explain molecular processes to students. Teach the student to connect the causal relationships of molecular processes. To enable the student to judge independently on the basis of acquired knowledge of modern biological science. |
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Explain the molecular mechanisms of cell functions;<br>- Link genetic principles of inheritance of monogenic and polygenic diseases;<br>- To relate the scientific study of inheritance with the techniques of molecular biology used in this regard;<br>- Express the professional terminology required for continuous monitoring of contemporary biomedical literature;<br>- Critically judge in problem-oriented teaching;<br>To conclude and judge the causal relationships between molecular processes based on the acquired knowledge. |

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

| Form of teaching | Theme | Number of student hours |
|---|---|---|
| | Principles of molecular biology and detailed explanations of DNA structure, replication, transcription and translation, laws of inheritance, polygenic diseases, molecular laboratory techniques, scientific approach to determining genetic predisposition for disease development, cytogenetics, methods in cytogenetics, prenatal diagnostics, molecular events in cancer, human genome. | |
| | | |
| | Theme | |
| L/S | History of genetics and its impact on medicine | 2/2 |
| L/S | Cellular and molecular basis of inheritance (DNA, DNA sequences, mtDNA) | 2/2 |
| L/S | Cellular and molecular basis of inheritance (transcription, translation, genetic code, regulation of gene expression, mutations) | 2/2 |
| L/S | Chromosome and cell division | 2/2 |
| L/S | Inheritance patterns | 2/2 |
| L/S | Polygenic and multifactorial inheritance | 2/2 |
| L/S | Population and mathematical genetics | 2/2 |
| L/S | Developing genetics | 2/2 |
| L/S | Cancer genetics | 2/2 |
| L/S | DNA technology and its implementation | 2/2 |

| | | | |
|---|---|---|---|
| | L/S | Pharmacogenetics | 2/2 |
| | L/S | Treatment of genetic diseases | 2/2 |
| | L/S | Chromosomal disorders. Monogenic diseases. | 2/2 |
| | L/S | Cloning. Genetically modified organisms. | 2/2 |
| | L/S | Ethical and legal issues in medical genetics | 2/2 |
| | E | Microscopy | 5 |
| | E | DNA isolation and analysis | 5 |
| | E | Cell cycle. Mitotic index. | 5 |
| | E | Karyotype | 5 |
| | E | Genetics tasks | 5 |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ *on line* in entirety<br>☒ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☒ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0,4 | Research | | Practical training | |
| | Experimental work | 0,4 | Report | | (Other) | |
| | Essay | | Seminar essay | 0,8 | (Other) | |
| | Tests | | Oral exam | | (Other) | |
| | Written exam | 2,4 | Project | | (Other) | |

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

| Verification indicators | Success (points) | Rating share (%) |
|---|---|---|
| Attendance and activity at lectures and seminars for 100% attendance | 10 | 10 |
| Experimental work (practical exercises) | 10 | 10 |
| Written exam | 60 | 60 |
| Seminar assignment (presentation…) | 20 | 20 |
| **In total** | **100** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criterion | mark |
|---|---|---|
| 60-69,9 | meets the minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above-average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | 1. Turnpenny PD, Ellard S. Emeryjeve osnove medicinske genetike. Medicinska naklada, Zagreb, 2011., 14. edition. | | |
| | 2. Cooper GM, Hausman RE. Stanica - Molekularni pristup. Medicinska naklada, Zagreb, 2010., the fifth translated edition in the croatian language | | |
| | 1. Peruzović M., Zemunik T.: Medicinska biologija, Priručnik za mikroskopske vježbe, Katedra za | | |

| | | | |
|---|---|---|---|
| | medicinsku biologiju, Medicinski fakultet u Splitu, Split, 2010. | | |
| Optional literature (at the time of submission of study programme proposal) | 1. Cox TM, Sinclair J. Molekularna biologija u medicini. Medicinska naklada Zagreb, 2000., croatian edition. | | |
| Quality assurance methods that ensure the acquisition of exit competences | Regular class attendance:<br>1. lectures - at least 80% of all classes attended,<br>2. seminars 90% and exercises 100%,<br>3. active participation in classes. | | |
| Other (as the proposer wishes to add) | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |

<table>
<tr><td colspan="2">NAME OF THE COURSE</td><td colspan="5">Cytology and Histology</td></tr>
<tr><td>Code</td><td colspan="2">ZSL610</td><td>Year of study</td><td colspan="4">2.</td></tr>
<tr><td>Course teacher</td><td colspan="2">Assistant professor<br>Dinka Šundov</td><td>Credits (ECTS)</td><td colspan="4">4</td></tr>
<tr><td>Associate teachers</td><td colspan="2">Associates from teaching basese</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>E</td><td>T</td></tr>
<tr><td></td><td></td><td></td><td colspan="4">25 | 10 | 35 |</td></tr>
<tr><td>Status of the course</td><td colspan="2">Mandatory</td><td>Percentage of application of e-learning</td><td colspan="4">Up to 10%</td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">No requirements</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">After completing the course, students will be able to:<br>- Describe the cell and tissue morphology with basic pathological changes at both levels;<br>- Independently perform staining of cytology sample;<br>- Perform the method of cytochemical staining;<br>- Perform the method of immunocytochemical staining;<br>- Describe the basic principle of cytomorphology;<br>- Manage the technology in a cytology laboratory.</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="6"><table>
<tr><th>Form</th><th>Theme</th><th>Hours</th></tr>
<tr><td>L,S,E</td><td>Basic types of tissue</td><td>3,2,4</td></tr>
<tr><td>L,S,E</td><td>Visualization of the basic types of tissue components</td><td>4,2,4</td></tr>
<tr><td>L,S,E</td><td>Fixation techniques, processing of cytological material (liquid samples, classic smears, LBC, cell blocks)</td><td>4,1,7</td></tr>
<tr><td>L,S,E</td><td>Standard cytological staining. Artifacts. Storage.</td><td>3,1,5</td></tr>
<tr><td>L,S,E</td><td>Additional methods (cytochemistry, immunocytochemistry - the basics of methods and practical applications, molecular markers in cytodiagnosis)</td><td>4,1,5</td></tr>
<tr><td>L,S,E</td><td>Automation in cytology laboratories</td><td>3,1,4</td></tr>
<tr><td>L,S,E</td><td>Cooperation with clinical cytologists in the introduction of new methods and supervision</td><td>3,1,3</td></tr>
<tr><td>L,S,E</td><td>Management of cytological laboratory - organization, planning, efficiency and quality supervision</td><td>3,1,3</td></tr>
</table></td></tr>
<tr><td>Format of instruction</td><td colspan="3">X lectures<br>X seminars and workshops<br>X exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work</td><td colspan="3">☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="6">Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning</td></tr>
<tr><td>Screening student work (name the proportion of ECTS credits for each activity so that the</td><td colspan="6"><table>
<tr><td>Class attendance</td><td>0,4</td><td>Research</td><td></td><td>Practical training</td><td>1,2</td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
</table></td></tr>
</table>

| | | | | | | |
|---|---|---|---|---|---|---|
| *total number of ECTS credits is equal to the ECTS value of the course)* | Tests | | Oral exam | | (Other) | |
| | Written exam | 2,4 | Project | | (Other) | |

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

| Verification indicators | Success (points) | Part of grade (%) |
|---|---|---|
| Class attendance | 5 | 10 |
| Written exam | 30 | 60 |
| Practical training | 15 | 30 |
| **Total** | **50** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| SUCCESS RATE ACHIEVED (%) | | EVALUATION |
|---|---|---|
| FROM | TO | |
| 60% | 69,9% | sufficient (2) |
| 70% | 79,9% | good (3) |
| 80% | 89,9% | very good (4) |
| 90% | 100% | excellent (5) |

Required literature (available in the library and via other media)

| **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|
| Young B, Heath JW. Wheater's Functional Histology. Churchill Livin gstone 2000. Izbrana poglavlja | | |
| Koss LG, Melamed MR. Koss' Diagnostic Cytology. Lippincott Williams &Wilkins 2006. Izabrana poglavlja | | |
| Kocjan G. Fine Needle Aspiration Cytology. Springer 2006. Izabrana poglavlja | | |

Optional literature (at the time of submission of study programme proposal)

Merica Glavina Durdov. Citološke i histološke tehnike. Split 2000. interna skripta

Quality assurance methods that ensure the acquisition of exit competences

- Teaching quality analysis by students and teachers
- Exam passing rate analysis
- Committee for control of teaching reports
- External evaluation

Other (as the proposer wishes to add)

| NAME OF THE COURSE | Histopathology Laboratory Techniques | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL611** | Year of study | 2nd | | | |
| Course teacher | Prof. dr. sc. Merica Glavina Durdov | Credits (ECTS) | 2 | | | |
| Associate teachers | Kristina Bedrina, univ.bacc.med.lab.diagn.<br>izv. prof. dr. sc. Snježana Mardešić<br>Ivan Mario Staničić, dr.med.<br>prof. dr. sc. Katarina Vukojević | Type of instruction (number of hours) | L | S | E | T |
| | | | 10 | 10 | 45 | |
| Status of the course | Mandatory | Percentage of application of e-learning | up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Make a frozen incision and classic histological preparation and stain it with standard HE, histochemical and immunohistochemical methods;<br>- Develop direct immunofluorescent staining, double immunofluorescent and immunohistochemical staining;<br>- Prepare a sample using the in situ hybridization method of CISH and FISH type;<br>- Identify difficulties and errors in the work process and solve them. |

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

| Teaching form | Topic | Number of student hours |
|---|---|---|
| L 1-2 | Diagnostic pathology | 2 |
| L 3 | Tissue fixation and preanalytical procedure | 1 |
| L 4 | Basic histological staining | 1 |
| L 5 | Laboratory automatization | 1 |
| L 6 | Histochemical stainings I | 1 |
| L 7 | Histochemical stainings II | 1 |
| L 8 | Electron microscopy | 1 |
| L 9 | Immunohistochemistry | 1 |
| L 10 | Molecular pathology | 1 |
| L 11-12 | Epithelial and connective tissue | 2 |
| L 13-14 | Cartilage tissue | 2 |
| L 15-16 | Bone tissue | 2 |
| L 17-18 | Muscle tissue | 2 |
| L 19-20 | Neural tissue | 2 |
| S 1 | Tissue processing | 1 |
| S 2 | Routine staining | 1 |
| S 3 | Automatization of the laboratory | 1 |
| S 4 | Histochemistry in diagnostic practice I | 1 |
| S 5 | Histochemistry in diagnostic practice II | 1 |
| S 6 | Electron microscopy | 1 |
| S 7 | Immunohistochemistry | 1 |
| S 8 | Molecular pathology | 1 |
| S 9-10 | From conception to birth | 2 |
| E 1 | Tour of the department | 1 |

| | | | |
|---|---|---|---|
| | E 2 | Macroscopy of pathology specimens | 3 |
| | E 3 | Frozen section | 3 |
| | E 4 | Tissue embedding | 3 |
| | E 5 | Cutting | 3 |
| | E 6 | Staining quality, artefacts | 2 |
| | E 7 | Staining | 2 |
| | E 8 | Quality control | 1 |
| | E 9 | Histochemistry I | 2 |
| | E 10 | Histochemistry II | 2 |
| | E 11 | Electron microscopy | 2 |
| | E 12 | Immunohistochemistry | 3 |
| | E 13 | Molecular pathology | 3 |
| | E 14 | Microscopy – types of epithelium | 3 |
| | E 15 | Microscopy – Connective tissue and skin | 3 |
| | E 16 | Microscopy – Cartilage and bone tissue | 3 |
| | E 17 | Microscopy – Muscle tissue | 3 |
| | E 18 | Microscopy – Neural tissue | 3 |

| | | |
|---|---|---|
| Format of instruction | x☐ lectures<br>x☐ seminars and workshops<br>☐x exercises<br>☐ *on line* in entirety<br>☐x partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>x☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

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

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

| Evaluating of students work | Points | Share in the grade (%) |
|---|---|---|
| Attendance and activity at lectures and seminars for 100% attendance | 5 | 10% |
| Practical work | 20 | 40% |
| Written exam | 25 | 50% |
| **Total** | **50** | **100** |

Written exam

| (%) | criteria | Grade mark |
|---|---|---|
| 60-69,9 | minimal | sufficient (2) |
| 70-79,9 | average | good (3) |
| 80-89,9 | above average | very good (4) |
| 90-100 | excellent | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Merica Glavina Durdov . Laboratorijske histopatološke tehnike. Redak 2015. | 1 | e-library REDAK |

| | | | |
|---|---|---|---|
| | Švob M. Histološke i histokemijske metode. Svjetlost Sarajevo 1974. | 1 | |
| | Young B, Heath JW. Wheater's Functional Histology. Churchill Livingstone 2000. Izbrana poglavlja | 1 | |
| | | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | Suvarna SK, Layton C, Bancroft JD. Bancrofts theory and Practice of Histologicakl Techniques. 8. Izd. London. E book. London Elselvier 2019. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| **NAME OF THE COURSE** | **Instrumental Techniques in MLD** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL612** | Year of study | 2 | | | |
| Course teacher | Davorka Sutlović, PhD, Full professor with tenor | Credits (ECTS) | 4 | | | |
| Associate teachers | Zlatka Knezović, PhD, Assistant professor<br>Sendi Kuret, PhD, Assistant professor<br>Vesela Torlak Lovrić, PhD, Assistant professor | Type of instruction (number of hours) | L | S | E | F |
| | | | 25 | 15 | 30 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 20% | | | |
| **COURSE DESCRIPTION** | | | | | | |
| Course objectives | 1. Introduce students to the types of instrumental techniques and the manner and reasons for their use in medical laboratory diagnostics.<br>2. Introduce the student to basic knowledge in a theoretically and practically applicable way.<br>3. To develop students' basic skills in the correct selection of appropriate analytical techniques for rapid obtaining of qualitative and quantitative results.<br>4. Explain the theoretical basis of instrumental techniques<br>5. On the examples of results, warn of timely detection of errors | | | | | |
| Course enrolment requirements and entry competences required for the course | No requirements | | | | | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>1. Perform data processing using spectroscopic, chromatographic, radioimmunochemical instrumental techniques and techniques in DNA analysis;<br>2. Establish a difference between the above techniques;<br>3. Prepare a sample for processing using one of the following techniques;<br>4. to describe the purpose of some of these techniques;<br>5. Identify difficulties and errors in the work process and solve them. | | | | | |

| | | | |
|---|---|---|---|
| Course content broken down in detail by weekly class schedule (syllabus) | Course type | Teaching unit | Hours |
| | L | Introduction to instrumental techniques Basic concepts and physical parameters of instrumental techniques. Types of instrumental techniques | 3 |
| | L | Validation of the instrumental method | 2 |
| | L | Gas chromatography, divisions and characteristics. Preparation of samples for gas chromatography | 3 |
| | L | Liquid chromatography, divisions and characteristics. | 3 |
| | L | IR spectrometry | 2 |
| | L | NMR instrumental technique | 2 |
| | L | Samples and preparation for DNA analysis | 2 |
| | L | Instrumental techniques in DNA analysis | 3 |
| | L | Atomic absorption and other techniques | 3 |
| | L | Nuclear medicine | 2 |
| | L | Choice of instrumental technique | 2 |
| | S | Chromatographic columns and instrumental analysis | 2 |
| | S | Making calibration curves | 2 |
| | S | UV spectrometry | 2 |
| | S | AAS | 2 |
| | S | Radio immuno essays | 2 |
| | S | Laboratory accreditation | 3 |
| | E | Sampling for chemical toxicological analysis and extraction | 2 |
| | E | GCMS instrument operation and chromatogram search | 4 |
| | E | Calculations for the preparation of the calibration curve | 2 |
| | E | Determination of the concentration of volatile organic compounds in biological samples | 2 |
| | E | Determination of drug concentration using HPLC method | 2 |
| | E | Spectrophotometric methods | 2 |
| | E | DNA analysis, from sample to PCR | 3 |
| | E | DNA instrumental techniques | 3 |
| | E | Determination of histamine in food samples | 3 |
| | E | Determination of metals in food samples | 3 |
| | E | Radioimmunoassay | 2 |
| | E | Techniques in nuclear medicine | 2 |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ *on line* in entirety<br>☒ partial e-learning<br>☐ field work | ☐independent assignments<br>☐ multimedia<br>☒ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Class attendance | 0.20 | Research | | (Other) | |
| | Experimental work | 0.40 | Report | | (Other) | |
| | Essay | | Seminar essay | 0.40 | (Other) | |
| | Tests | | Oral exam | **1.0** | (Other) | |
| | Written exam | **2.0** | Project | | (Other) | |

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

| Verification indicators | Success (points) | Rating share (%) |
|---|---|---|
| Attendance and activity at lectures and seminars for 100% attendance | 5 | 5 |
| Experimental work (practical exercises) | 10 | 10 |
| Seminar paper (presentation ) | 10 | 10 |
| Written exam (minimum pass rate on the test is 60% of correctly solved tasks) | 50 | 50 |
| Oral exam | 25 | 25 |
| **Total** | **100** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criterion | rating |
|---|---|---|
| 60-69,9 | meets minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | outstanding success | excellent (5) |

**Required literature (available in the library and via other media)**

| **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|
| 1. Internal script available to students (prepared by D. Sutlović) | 0 | https://webknjizara.hr/ |
| Ppt presentations and video of instrumental techniques | | |
| | | |

**Optional literature (at the time of submission of study programme proposal)**

1. A. C. Moffat, M. D. Osselton, B. Widdop, Clarke's Analysis of Drugs and Poisons, 3rd ed. London: Pharmaceutical Press, 2004.; F. P. Smith, Handbook of Forensic drug Analysis. Elseiver Academic Press, 2005.;

P. Gerhards, U. Bons, J. Sawazki, J. Szigan, A. Wertmann, GC/MS in Clinical Chemistry. WILEY-VCH Verlag GmbH. Weinheim; 1999.

**Quality assurance methods that ensure the acquisition of exit competences**

- Teaching quality analysis by students and teachers
- Exam passing rate analysis
- Committee for control of teaching reports
- External evaluation

**Other (as the proposer wishes to add)**

| NAME OF THE COURSE | Computer Processing of Laboratory Data (LIS) | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL613** | Year of study | 2. | | | |
| Course teacher | Assistant professor Leida Tandara, MA in Medical Biochemistry | Credits (ECTS) | 2 | | | |
| Associate teachers | Associates from teaching basese | Type of instruction (number of hours) | L | S | E | T |
| | | | 8 | 7 | 20 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing this course students will be able to:<br>- Operate LIS application programs for data entry by direct communication between autoanalyser and computer (on-line);<br>- Operate LIS application program for creating work orders and bar-code labels;<br>- Operate LIS application program for searching laboratory database. |

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

| Form | Theme | Hours |
|---|---|---|
| E | The course refers to the theoretical and practical knowledge and skills related to the application of LIS in daily work | 10 |
| E | Laboratory data entry into computers: demands for laboratory testing, creating work orders, identification of samples, creating bar-code labels, entry and verification of test results | 10 |
| L, S | Storing laboratory results: database organization, easy access to data for searching, comparing and preparing financial and business statements. | 3,3 |
| L, S | Connecting laboratory data: the concept of hospital information system (HIS), the organizational structure of HIS. | 3,2 |
| L, S | Security risks and protection, ethical issues, protecting confidentiality of stored data | 2,2 |

| | | |
|---|---|---|
| Format of instruction | X lectures<br>X seminars and workshops<br>X exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*

| | | | | | | |
|---|---|---|---|---|---|---|
| Class attendance | | Research | | Practical training | 1,6 | |
| Experimental work | | Report | | | | |
| Essay | | Seminar essay | | (Other) | | |
| Tests | | Oral exam | | (Other) | | |
| Written exam | 0,4 | Project | | (Other) | | |

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

| Verification indicators | Success (points) | Part of grade (%) |
|---|---|---|
| Written exam | 10 | 20 |
| Practical training | 40 | 80 |
| **Total** | **50** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| SUCCESS RATE ACHIEVED (%) | | EVALUATION |
|---|---|---|
| FROM | TO | |
| 60% | 69,9% | sufficient (2) |
| 70% | 79,9% | good (3) |
| 80% | 89,9% | very good (4) |
| 90% | 100% | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Šrenger V., Justinić Ž.: Primjena informatičkih dijagnostika u kliničkom laboratoriju u: Štraus B., Stavljenić Rukavina A., Plavšić F.: Analitičke tehnike u kliničkom laboratoriju, Medicinska naklada, Zagreb, 1997., 327-343. | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | Telemedicina u Hrvatskoj, Akademija medicinskih znanosti Hrvatske, Zagreb, 2001 |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Clinical Skills II | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL616** | Year of study | 2. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 11. | | | |
| Associate teachers | Marija Banić, univ. bacc. med. lab. diagn.<br>Vladimira Martić, univ. bacc.<br>Zlatka Knezović, PhD, Assistant professor<br>Esma Čečuk Jeličić, PhD, Associates from teaching bases | Type of instruction (number of hours) | L<br>10 | S<br>10 | PCE<br>235 | CE |
| Status of the course | Mandatory | Percentage of application of e-learning | Till 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Perform venipuncture of blood samples for hematological tests<br>- Prepare biological material for biochemical and coagulation analyzes<br>- Demonstrate the analysis and difference of urine in health and disease<br>- Make an analysis: creatinine, uric acid, glucose and ketones in urine, creatinine clearance<br>- Explain the analysis of basic enzymes important in laboratory diagnostics<br>- Measure the numerical concentrations of erythrocytes and leukocytes, hemoglobin, erythrocyte constants, erythrocyte sedimentation rate<br>- Explain basic blood groups and perform analyzes<br>- Perform preparation of biological material and perform cytological and microbiological analyzes |

| Course content broken down in detail by weekly class schedule (syllabus) | | | |
|---|---|---|---|
| | | | |
| | L,S | Organization of medical laboratory services, collection, processing and storage of collected samples | 10,10 |
| | E | Clinical skills in medical biochemistry laboratory | 100 |
| | E | Clinical skills in transfusion center | 30 |
| | E | Clinical skills in pathohistological and citology laboratory | 30 |
| | E | Clinical Skills in microbiological laboratory | 25 |
| | E | Clinical skills in laboratory for nuclear medicine | 25 |
| | E | Skills in health ecology laboratories. | 25 |

| Format of instruction | | |
|---|---|---|
| | x lectures<br>x seminars and workshops<br>x exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>x laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 1,57 | Research | | Practical training | |
| | Experimental work | | Report | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Essay | | Seminar essay | | (Other) | |
| | Tests | 9,43 | Oral exam | | (Other) | |
| | Written exam | | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | Written exam | | | | | |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | C.A. Burtis, E.R. Aschwood, D.E. Burns, ur. Tietz Textbook of Clinical Chemistry and molecular Diagnostics. 8. izdanje. St. Luis: Elsevier Saunders, 2018, odabrana poglavlja | | |
| | E. Topić, D. Primorac, S. Janković, M. Stefanović i sur. Medicinskobiokemijska dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2018. | | |
| | D. Čvorišćec, I. Čepelak Štrausova Medicinska biokemija, Medicinska naklada, Zagreb, 2009. | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | W.G. Guder, S. Narayanan, H. Wisser, B. Zawta Diagnostic Samples: From the Patient to the Laboratory: The Impact of Preanalytical Variables on the Quality of Laboratory Results, 4th, Updated Edition, Git Vwerlag GMBH, 2009. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | FOOD TOXICOLOGY | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL615** | Year of study | 2 | | | |
| Course teacher | Zlatka Knezović, PhD, Assistant professor | Credits (ECTS) | 3 | | | |
| Associate teachers | Davorka Sutlović, PhD, Full professor with tenor | Type of instruction (number of hours) | L | S | E | F |
| | | | 15 | 10 | 10 | |
| Status of the course | Elective | Percentage of application of e-learning | 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | Introduce the student to the basic principles of food toxicology. To enable the student to independently determine the type of toxic compounds in food. Assist the student in developing awareness of the effects of toxic compounds and food additives on the whole organism. To acquaint the student with basic information about GMO food and the detection of this type of food among the offered food items. To acquaint the student with the basic laws prescribed by the Republic of Croatia and the EU regarding GMO food and the permitted dose of certain compounds in food. |
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Explain the basic principles in food toxicology;<br>- Identify toxic compounds in food;<br>- Establish the effect of toxic substances on the body;<br>- Master basic information about GMOs (genetically modified organisms);<br>- Identify food GMO items;<br>- Master the directives and laws prescribed by the Republic of Croatia and the EU related to the presence of toxic compounds in food and samples of general use. |

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

| Course type | Teaching unit | Hours |
|---|---|---|
| L | Basic concepts and the fate of toxins in the body | 3 |
| L | Environmental impact on food contamination | 2 |
| L | Additives | 2 |
| L | Risky food and risk assessment | 1 |
| L | Metals and metalloids | 2 |
| L | Pesticides | 1 |
| L | Natural toxins | 2 |
| L | GMO food | 2 |
| S | Examples of contaminated food | 4 |
| S | Types of risky foods | 3 |
| S | Types of samples for toxicological analysis | 3 |
| E | Counterfeiting food | 2 |
| E | Food quality and forgery testing | 6 |
| E | Determination of mycotoxins | 2 |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>exercises<br>☐ *on line* in entirety<br>☒ partial e-learning<br>☐ field work | ☐independent assignments<br>☐ multimedia<br>☒ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Password for AAI EduHr electronic identity to access e-learning | | | | | |
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Class attendance | | Research | | **(Other)** | |
| | Experimental work | | Report | | **(Other)** | |
| | Essay | | Seminar essay | 0.5 | **(Other)** | |
| | Tests | | Oral exam | | **(Other)** | |
| | Written exam | **2.0** | Project | 0.5 | (Other) | |

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

| Verification indicators | Success (points) | Rating share (%) |
|---|---|---|
| Experimental work (practical exercises) | 10 | 16.67 |
| Seminar paper (presentation ) | 10 | 16.67 |
| Written exam (minimum pass rate on the test is 60% of correctly solved tasks) | 40 | 66.67 |
| **Total** | **60** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criterion | rating |
|---|---|---|
| 60-69,9 | meets minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | outstanding success | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Sutlović D. et. al. Food toxicology. Redak 2011. | 0 | https://webknjizara.hr/ |
| | | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | Gibson, G.G:, Walker, R.: Food Toxicology: Real or Imaginary Problems?, Taylor & Francis LTD, London (1985).<br>Rusell F.E., Marine Toxins ana Venomous and Poisonous Marine Plants and Animals ( Intervebrates), Academic press, London, 1984. |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Emergency in Medicine | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSZ630** | Year of study | 3 | | | |
| Course teacher | Mihajlo Lojpur, M.D., Ph.D, Assistant Professor | Credits (ECTS) | 2 | | | |
| Associate teachers | Associates from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 18 | | 25 | |
| Status of the course | Mandatory | Percentage of application of e-learning | 20% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | The student will be trained in basic resuscitation skills and work in the intensive care unit and:<br>1. Supervise the functions of vital organs and recognize development of life-threatening situation,<br>2. Evaluate patient's condition and take appropriate emergency measures in typical emergencies,<br>3. Implement emergency procedures for dealing with vital organ failure,<br>4. Apply BLS and ALS resuscitation protocol,<br>5. Identify life-threatening arrhythmias and apply AED if necessary.<br>6. Establish and maintain a patent airway,<br>7. Administer oxygen,<br>8. Establish peripheral and/or intraosseous venous access,<br>9. Use parenteral drugs, infusion solutions and blood derivatives<br>10. Recognize the occurrence and type of complications during diagnostic or other medical procedures in life-threatening patients, and apply emergency procedures and treatment if they occur |

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

| Form of teaching | Topics | Hours |
|---|---|---|
| | | |
| L | 1. Monitoring of vital functions of the organism | 1 |
| L | 2. Essential medicines in emergencies | 1 |
| L | 3. Acute poisoning | 1 |
| L | 4. Treatment of acute pain | 1 |
| L | 5. Resuscitation of children | 1 |
| L | 6. Acute failure of vital organ systems | 2 |
| L | 7. Shock, Anaphylactic shock | 1 |
| L | 8. Fluid replacement | 1 |
| L | 9. Basics of mechanical ventilation | 2 |
| L | 10. Blood replacement | 1 |
| L | 11. Adult resuscitation | 2 |
| L | 12. Acute coronary syndrome | 1 |
| L | 13. Injury care, Burns | 2 |
| L | 14. Identification of patients requiring urgent treatment | 1 |
| E | 1. Airway and oxygen administration | 5 |
| E | 2. Resuscitation (BLS modified for hospital conditions + scenarios) | 5 |
| E | 3. Patient monitoring, cardiac arrhythmias, defibrillation and electroconversion | 5 |
| E | 4. Initial care of the injured | 5 |
| E | 5. Iv and intraosseous route, administration of drugs, infusion solutions and blood | 5 |

<table>
<tr><td>Format of instruction</td><td colspan="3">☐ √ lectures<br>☐ √ seminars and workshops<br>☐ √ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work</td><td colspan="3">☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ √ work with mentor<br>☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="6">Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning</td></tr>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td></td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td>Mastering skills in exercises</td><td>1</td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>1</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">Written exam:
<table>
<tr><th>Achieved success ( % )</th><th>Description of acquired knowledge</th><th>Grade</th></tr>
<tr><td>60-69,9</td><td>meets the minimum criteria</td><td>sufficient (2)</td></tr>
<tr><td>70-79,9</td><td>average success</td><td>good (3)</td></tr>
<tr><td>80-89,9</td><td>above-average success</td><td>very good (4)</td></tr>
<tr><td>90-100</td><td>remarkable success</td><td>excellent (5)</td></tr>
</table></td></tr>
<tr><td rowspan="6">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="3">Marko Jukić, Mladen Carev, Nenad Karanović, Mihajlo Lojpur. Anesthesiology and Intensive Care Medicine for students of medicine, dental medicine and health studies. Split: Faculty of Medicine, 2017.<br>Chapters 1, 3, 10, 12, 15, 19, 20, 22, 25 and 28</td><td></td><td>Website of the School of Split</td></tr>
<tr><td colspan="3">Mihajlo Lojpur. Cardiopulmonary resuscitation. In: Tanja Šimurina, Boris Mraović. General clinical anesthesiology and resuscitation. Zadar: University of Zadar, 2020; 379-446</td><td></td><td></td></tr>
<tr><td colspan="3">Gvožđak M, Tomljanović B. Basic emergency medical procedures. Croatian Chamber of Nurses, Croatian Institute of Emergency Medicine, Zagreb, 2011.</td><td></td><td>https://vub.hr/images/uploads/3209/hitni_medicinski_postupci_u_izvanbolnckim_uvjetima.pdf</td></tr>
<tr><td colspan="3">Basic Clinical skills. In: Simunovic VJ: Catalogue of Clinical Skills. Seattle: CreateSpace Independent Publishing Platform; 2013. ISBN - 10: 1489580212.</td><td></td><td></td></tr>
<tr><td colspan="3"></td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6"></td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
</table>

| | |
|---|---|
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Clinical Biochemistry | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL617** | Year of study | 3. | | | |
| Course teacher | Assistant professor Nada Bilopavlović | Credits (ECTS) | 7 | | | |
| Associate teachers | Assistant professor Daniela Šupe Domić<br>Assistant professor Leida Tandara<br>Associates from teaching basese | Type of instruction (number of hours) | L | S | E | T |
| | | | 40 | 30 | 50 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | Attended classes and passed the exam in Biochemistry II and Physical Methods in MLD |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completed course student will be able to:<br>- Explain, connect and present the role of selected analytical method in the diagnosis of specific diseases;<br>- Describe the appropriate analytical method to prove the concentration of non-protein nitrogen compounds, proteins, electrolytes, lipids, hormones, tumor markers;<br>- Managenew analytical techniques have better sensitivity and specificity;<br>- Explain preanalytical, analytical and post-analytical phases in biochemical testing of biological material. |

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

| Form | Theme | Hours |
|---|---|---|
| | The importance of clinical (medical) biochemistry in the diagnosis of disease | |
| | Specialist laboratories. Biological materials | |
| | Preanalytical phase and analytical methods in clinical biochemistry | |
| | Water and electrolytes, electrolyte disturbances | |
| | Methods for testing acid-base balance | |
| | Carbohydrates, changes in blood glucose concentrations. | |
| | Determination of amino acids | |
| | Total protein and albumin, changes in the serum concentration | |
| | Serum protein electrophoresis | |
| | Proteins in urine | |
| | Immunoglobulins | |
| | Immunochemical methods for protein determination. | |
| | Hemoproteins - Hemoglobin, myoglobin and cytochromes | |
| | Bilirubin | |
| | Iron - metabolism; Laboratory parameters for monitoring iron status | |
| | Non-protein nitrogen compounds; Methods for determination of urea, creatinine, uric acid and ammonia | |
| | Urinalysis | |
| | Enzymes; classification and nomenclature of enzymes, methods for determining enzyme activity, changes in enzyme activity in serum, localization of enzymes in tissues / organs, localization of enzymes in cells | |

| | | | |
|---|---|---|---|
| | | Haemoproteins. Hormones, Vitamins. Tumour markers. Cerebrospinal fluid, macroscopic examination, biochemical tests. | |

| | | |
|---|---|---|
| Format of instruction | X lectures<br>X seminars and workshops<br>X exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | X independent assignments<br>☐ multimedia<br>X laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0,35 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | 0,70 | (Other) | |
| | Colloquium | 0,70 | Oral exam | | (Other) | |
| | Written exam | 5,25 | Project | | (Other) | |

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

| Verification indicators | Success (points) | Part of grade (%) |
|---|---|---|
| Class attendance | 5 | 5 |
| Colloquium | 10 | 10 |
| Written exam | 75 | 75 |
| Seminar essay | 10 | 10 |
| **Total** | | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| SUCCESS RATE ACHIEVED (%) | | EVALUATION |
|---|---|---|
| FROM | TO | |
| 60% | 69,9% | sufficient (2) |
| 70% | 79,9% | good (3) |
| 80% | 89,9% | very good (4) |
| 90% | 100% | excellent (5) |

Required literature (available in the library and via other media)

| Title | Number of copies in the library | Availability via other media |
|---|---|---|
| Čvoriščec D, Čepelak I. Ur. Štrausova medicinska biokemija. Zagreb: Medicinska naklada, 2009. (odabrana poglavlja) | | |
| Topić E, Primorac D, Janković S., Štefanović M. i sur. ,.Medicinska biokemija i laboratorijsks medicina u kliničkoj praksi, Medicinska naklada 2018., (odabrana poglavlja) | | |
| Čepelak I., Štraus B., Dodig S., Labar B.: Medicinsko biokemijske smjernice, Zagreb, Medicinska naklada, 2004., (odabrana poglavlja) | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | Tietz: Fundamentals of Clinical Chemistry, odabrana poglavlja |
| Quality assurance methods that ensure | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis |

| | |
|---|---|
| the acquisition of exit competences | ▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

<table>
<tr><td colspan="2">NAME OF THE COURSE</td><td colspan="5">Basics of Transfusion Medicine and Transplantation</td></tr>
<tr><td>Code</td><td colspan="2">ZSL618</td><td>Year of study</td><td colspan="4">3.</td></tr>
<tr><td>Course teacher</td><td colspan="2">Assistant professor<br>Slavica Dajak</td><td>Credits (ECTS)</td><td colspan="4">7</td></tr>
<tr><td rowspan="2">Associate teachers</td><td colspan="2" rowspan="2">Assistant professor<br>Esma Čečuk Jeličić<br>Associates from teaching basese</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>E</td><td>T</td></tr>
<tr><td>40</td><td>30</td><td>50</td><td></td></tr>
<tr><td>Status of the course</td><td colspan="2">Mandatory</td><td>Percentage of application of e-learning</td><td colspan="4">Up to 10%</td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">No requirements</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">After completed course student will be able to:<br>- Interpret the principles of good professional practice in relation to other staff, patients and blood, cell and tissue donors;<br>- Explain laboratory safety standards;<br>- Manage a sample before, during and after immunohaematological tests and diagnostic tests for infectious diseases transmitted by blood;<br>- Manage the maintenance of laboratory equipment required for sample analysis and processing of blood, tissue and cell samples;<br>- Manage quality assurance procedures in the laboratory;<br>- Use basic immunohaematological tests to determine the ABO and RhD blood group;<br>- Use basic tests for identification of erythrocyte antibodies;<br>- Use basic tests for detection of infectious diseases transmitted by blood;<br>- Know the basics of tests for determining the HLA antigens and antibodies system;<br>- Know the basics of the process of production of blood components;<br>- Know the basics of tissues and cells processing and storage procedures.</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="6"><table>
<tr><th>Form</th><th>Theme</th><th>Hours</th></tr>
<tr><td>L</td><td>specifics of blood donation services and hospital wards for transfusion medicine, ABO and RhD blood group systems, pretransfusion testing, hemolytic disease of the newborn, immunohaematological testing of autoimmune hemolytic anemia, selection of donors, venipuncture technique, production of blood components, transfusion transmitted diseases, treatment and technical aspects of the blood components use; adverse reactions to blood components, apheresis, medical documentation and quality assurance, legislation in transfusion medicine, immune thrombocytopenia and granulocytopenia and diagnostic methods, the main tissue compatibility system (HLA), biological and clinical significance of HLA; Immunogenetics and solid organ and hematopoietic stem cell transplantation, work rules in aseptic conditions; basic principles of cryobiology, processing and storage of different types of human tissues and cells; basics of in vitro cell culture</td><td>40</td></tr>
<tr><td>S</td><td>erythrocyte blood group systems, immunohaematological testing of pregnant women and hemolytic disease of the newborn, difficulties in pretransfusion testing, manufacturing operations in transfusion medicine, selection of donors, testing for markers of blood transmitted disease, methods to determine HLA antigen 50gene and antibody, methods for isolation / separation of cell populations</td><td>30</td></tr>
</table></td></tr>
</table>

| | | | |
|---|---|---|---|
| | E | determining blood groups, pretransfusion testing, identification of red cell antibodies, immunohaematological testing of pregnant women, production of blood components, blood testing for markers of infectious diseases, determination of the HLA gene, antigen and antibody | |

| | | |
|---|---|---|
| Format of instruction | X lectures<br>X seminars and workshops<br>X exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning | |

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

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

| Verification indicators | Success (points) | Part of grade (%) |
|---|---|---|
| Class attendance | 10 | 10 |
| Colloquium | 10 | 10 |
| Written exam | 70 | 70 |
| Seminar essay | 10 | 10 |
| **Total** | **100** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| SUCCESS RATE ACHIEVED (%) | | EVALUATION |
|---|---|---|
| FROM | TO | |
| 60% | 69,9% | sufficient (2) |
| 70% | 79,9% | good (3) |
| 80% | 89,9% | very good (4) |
| 90% | 100% | excellent (5) |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | **Grgičević D. I sur.** Transfuzijska medicina u kliničkoj praksi. Medicinska naklada, Zagreb, 2006 | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | **Labar B, Hauptman i sur.** Hematologija. Školska knjiga. 2007.<br>G**olubić Čepulić B. i sur**. Klinička transfuziologija. Prijetransfuzijsko ispitivanje. KBC Zagreb. 2001.<br>**Golubić Čepulić B. i sur.** Klinička transfuziologija: Klinička primjena krvnih pripravaka sa smanjenim brojem leukocita. KBC Zagreb. 2001.<br>**Golubić Čepulić B. i sur.** Klinička transfuziologija: Profilaksa RhD imunizacije u trudnoći. KBC Zagreb. 2000.<br>**Golubić Čepulić B. i sur.** Klinička transfuziologija: Liječenje eritrocitnim krvnim pripravcima. KBC Zagreb. 2002. |
| Quality assurance methods that ensure | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports |

| | |
|---|---|
| the acquisition of exit competences | ▪ External evaluation |
| Other (as the proposer wishes to add) | |

<table>
<tr><td>NAME OF THE COURSE</td><td colspan="5">Clinical Microbiology</td></tr>
<tr><td>Code</td><td colspan="5">ZSL619</td></tr>
<tr><td>Study program</td><td>MLD</td><td>Year of study</td><td colspan="3">3.</td></tr>
<tr><td>Course teacher</td><td>asst. prof. Vanja Kaliterna, M.D., PhD, clinical microbiology specialist</td><td>Credits (ECTS)</td><td colspan="3">5</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">asst. prof. Katarina Šiško Kraljević, M.D., PhD, clinical microbiology specialist<br>asst. prof. Merica Carev, M.D., PhD, clinical microbiology specialist<br>Associates from teaching bases</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>Cl E</td><td>LE</td><td>T</td></tr>
<tr><td>30</td><td>10</td><td>75</td><td></td><td></td></tr>
<tr><td>Status of the course</td><td>Mandatory</td><td>Percentage of application of e-learning</td><td colspan="3">Up to 10%</td></tr>
<tr><td colspan="6">COURSE DESCRIPTION</td></tr>
<tr><td>Objectives of the course</td><td colspan="5">1. To assist the student in the process of acquiring competencies for independent work in the laboratory.<br>2. To introduce the student with the application and mode of performing all diagnostic methods and procedures in the identification of medically significant microorganisms.<br>3. To enable students to accept the principles of safe laboratory work and prevention of laboratory infections.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="5">Passed exam Microbiology with Parasitology</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="5">After completing the course student will be able to:<br>- Demonstrate the basic knowledge of microorganisms - causative agents of infections in humans;<br>- Accept techniques and skills used in microbiological diagnosis of various medically important types of microorganisms;<br>- Perform laboratory diagnosis of bacteria that cause infections in humans, which includes media preparation, seeding, methods for identification of microorganisms, antimicrobial susceptibility testing;<br>- Perform diagnosis of fungal infections;<br>- Perform diagnosis of parasitosis;<br>- Perform diagnosis of viral infections;<br>- Establish the principles of safe work in the microbiological laboratory</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="5"><table>
<tr><td>Form of teaching</td><td>Thematic units:</td><td>Number of student hours</td></tr>
<tr><td>L 1</td><td>Introduction to clinical microbiology.<br>Principles of safe work in microbiology.</td><td>2</td></tr>
<tr><td>L 2</td><td>Disinfection and sterilization. Nosocomial infections.</td><td>2</td></tr>
<tr><td>Cl E 1</td><td>Laboratory infections. Principles of safe laboratory work.<br>Types of microbiological samples. General principles of taking, storing and sending samples for microbiological processing.<br>Staining in bacteriology. Monochromatic staining. Microscopy of basic bacterial forms.</td><td>4</td></tr>
</table></td></tr>
</table>

| | | | |
|---|---|---|---|
| | Cl E 2 | Polychromatic staining.<br>Media preparation, media sterility control.<br>Cultivation of bacteria, media types. | 5 |
| | L 3 | Antimicrobial agents, principles of antimicrobial susceptibility testing. | 2 |
| | Cl E 3 | Examination of bacterial susceptibility to antimicrobial agents. | 4 |
| | L 4 | Causative agents of respiratory infections. | 2 |
| | Cl E 4 | Diagnosis of upper respiratory tract infections. | 4 |
| | Cl E 5 | Diagnosis of lower respiratory tract infections. | 4 |
| | L 5 | Causative agents of tuberculosis and mycobacteriosis. | 2 |
| | Cl E 6 | Diagnosis of tuberculosis. | 4 |
| | L 6 | Causative agents of gastrointestinal infections. | 2 |
| | Cl E 7 | Diagnosis of gastrointestinal infections. | 4 |
| | L 7 | Causative agents of genitourinary infections. | 2 |
| | Cl E 8 | Diagnosis of genitourinary infections. | 4 |
| | L 8 | Anaerobic infections. | 2 |
| | L 9 | Causative agents of tissue and wound infections. | 2 |
| | Cl E 9 | Diagnosis of anaerobic infections.<br>Diagnosis of tissue and wound infections. | 4 |
| | L 10 | Causative agents of *Central nervous system (CNS) infections*. | 2 |
| | L 11 | Diagnosis of bacteremia. | 2 |
| | Cl E 10 | Diagnosis of CNS infections and diagnosis of bacteremia. | 4 |
| | L 12 | Serological diagnosis of infection. | 2 |
| | S 1 | Hepatitis | 2 |
| | S 2 | TORCH | 2 |
| | Cl E 11 | Serological diagnosis of infection. Rapid tests in microbiology. | 4 |
| | S 3 | Newborn infections | 2 |
| | S 4 | SARS-CoV-2 virus infection | 2 |
| | Cl E 12 | Molecular diagnosis of infection. | 4 |
| | L 13 | Mycoses | 2 |
| | Cl E 13 | Diagnosis of infections caused by yeasts and molds. | 4 |
| | L 14 | Protozoa and helminthiasis. | 2 |
| | Cl E 14 | Diagnosis of protozoa and helminthiasis. | 4 |
| | L 15 | Blood and tissue parasitosis. | 2 |
| | Cl E 15 | Diagnosis of blood and tissue parasitosis. | 4 |
| | S 5 | Infections in immunocompromised individuals. | 2 |
| | Cl E 16 | Application of microbiology in routine work. | 5 |
| | Cl E 17 | Practical work in the clinical microbiology laboratory. | 5 |
| | Cl E 18 | Practical part of the exam. | 4 |

| | | |
|---|---|---|
| Format of instruction: | ☒lectures<br>☒seminars and workshops<br>☒exercises<br>☐*on line* in entirety<br>☒partial e-learning<br>☐field work | ☒independent assignments<br>☐multimedia<br>☒laboratory<br>☐work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS* | Class attendance | 0,5 | Research | | Practical training | 2,5 |
| | Experimental work | | Report | | (other) | |
| | Essay | | Seminar essay | | (other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *credits is equal to the ECTS value of the course):* | Tests | | Oral exam | | (other) | |
| | Written exam | 2,0 | Project | | (other) | |

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

| Verification indicators | Performance (points) | Rating share (%) |
|---|---|---|
| Attendance and activity at lectures and seminars for 100% attendance | 10 | 10.00 |
| Written exam | 40 | 40.00 |
| Practical work | 50 | 50.00 |
| **In total** | **100** | **100.00** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criterion | Mark |
|---|---|---|
| 60 – 70.9 | meets the minimum criteria | sufficient (2) |
| 71 – 80.9 | average success | good (3) |
| 81 – 90.9 | above-average success | very good (4) |
| 91 - 100 | exceptional success | excellent (5) |

Required literature (available in the library and via other media)

| Title | Number of copies in the library | Availability via other media |
|---|---|---|
| Written materials (handouts) from lectures. | | on the website Merlin platform Course Clinical microbiology |
| Kalenić S i sur.. Medicinska mikrobiologija. 2. izd. Zagreb:Medicinska naklada, 2019. | | |
| Richter B. Medicinska parasitologija. 6. izd. Merkur A.B.D., 2002. | | |
| Presečki V i sur. Virologija. Zagreb: Medicinska naklada; 2002. | | |
| | | |

Optional literature (at the time of submission of study programme proposal)

Tonkić M., Dobec M., Abram M. i sur. Jawetz,Melnick & Adelberg Medicinska mikrobiologija. Split: Placebo, 2015.

Uzunović-Kamberović S, ur. Medicinska mikrobiologija. Zenica : Štamparija Fojnica, 2009.

Quality assurance methods that ensure the acquisition of exit competences

5. Teaching quality analysis by students and teachers
6. Exam passing rate analysis
7. Committee for control of teaching reports
8. External evaluation

Other (as the proposer wishes to add)

<table>
<tr><td colspan="2">NAME OF THE COURSE</td><td colspan="5">Laboratory Haematology and Coagulation</td></tr>
<tr><td>Code</td><td>ZSL620</td><td>Year of study</td><td colspan="4">3.</td></tr>
<tr><td>Course teacher</td><td>Assistant professor<br>Nada Bilopavlović</td><td>Credits (ECTS)</td><td colspan="4">6</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Assistant professor<br>Leida Tandara<br>Associates from teaching basese</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>E</td><td>T</td></tr>
<tr><td>30</td><td>15</td><td>60</td><td></td></tr>
<tr><td>Status of the course</td><td>Mandatory</td><td>Percentage of application of e-learning</td><td colspan="4">Up to 10%</td></tr>
<tr><td colspan="6">COURSE DESCRIPTION</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="5">Attended classes and passed the exam in Basics of Hematology and Coagulation</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="5">After completing the course student will be able to:<br>- Operate automated haematology analysers;<br>- Describe preanalytical and analytical interferences in morphological laboratory haematology;<br>- Describe the internal control system with commercial bloods of different analytical systems in laboratory haematology;<br>- Describe the morphological characteristics of blood cells in peripheral blood smears in adults, children and infants;<br>- Describe disorders which do not require cytochemical diagnostics;<br>- Operate automated devices for measuring the erythrocyte sedimentation rate;<br>- Define conditions for sampling, storage and sample preparation for haemostasis tests.</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="5"><table>
<tr><td>Form</td><td>Theme</td><td>Hours</td></tr>
<tr><td></td><td>1. Introduction to laboratory haematology- sampling, interference;<br>2.Hematology analysers, measuring principles, internal analytical control system<br>3.Hematology parameters in differential diagnosis of anaemia<br>4.Morphological characteristics of red blood cells in anaemia, determination of reticulocytes<br>5. Classification of leukocytes on haematology analysers<br>6. Morphological characteristics of leukocyte populations and platelets morphology<br>7. Preanalytical factors in haemostasis diagnostics.<br>8. Global haemostasis tests<br>9. Automated coagulometers and internal quality control system<br>10. Platelet aggregation<br>11. POCT devices in laboratory tests of haemostasis</td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Format of instruction</td><td colspan="2">X lectures<br>X seminars and workshops<br>X exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work</td><td colspan="3">X independent assignments<br>☐ multimedia<br>X laboratory<br>☐ work with mentor<br>☐ (other)</td></tr>
<tr><td>Student responsibilities</td><td colspan="5">Regular class attendance<br>Active participation in the teaching process<br>Password for AAI EduHr electronic identity to access e-learning</td></tr>
</table>

<table>
<tr><td rowspan="5">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>0,3</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>0,6</td><td>(Other)</td><td></td></tr>
<tr><td>Colloquium</td><td>0,6</td><td>Oral exam</td><td>4,5</td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td></td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">
<table>
<tr><th>Verification indicators</th><th>Success (points)</th><th>Part of grade (%)</th></tr>
<tr><td>Class attendance</td><td>5</td><td>5</td></tr>
<tr><td>Colloquium</td><td>10</td><td>10</td></tr>
<tr><td>Written exam</td><td>10</td><td>10</td></tr>
<tr><td>Seminar essay</td><td>75</td><td>75</td></tr>
<tr><td>Total</td><td>100</td><td>100</td></tr>
</table>
RATIO OF SUCCESS AND EVALUATION
<table>
<tr><td colspan="2">SUCCESS RATE ACHIEVED (%)</td><td>EVALUATION</td></tr>
<tr><td>FROM</td><td>TO</td><td></td></tr>
<tr><td>60%</td><td>69,9%</td><td>sufficient (2)</td></tr>
<tr><td>70%</td><td>79,9%</td><td>good (3)</td></tr>
<tr><td>80%</td><td>89,9%</td><td>very good (4)</td></tr>
<tr><td>90%</td><td>100%</td><td>excellent (5)</td></tr>
</table>
</td></tr>
<tr><td rowspan="2">Required literature (available in the library and via other media)</td><td colspan="4">Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td colspan="4">Boris Labar i sur. Hematologija, Školska knjiga; 2017</td><td></td><td></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">McKenzie,Shirlyn B. Clinical Laboratory Hematology, 2014.- odabrana poglavlja</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="6"></td></tr>
</table>

| NAME OF THE COURSE | Molecular Biology Techniques in Medicine | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL621** | Year of study | 3 | | | |
| Course teacher | Prof. Irena Drmić Hofman, PhD | Credits (ECTS) | 5 | | | |
| Associate teachers | Assist. Prof. Sendi Kuret, PhD<br>Assist. Prof. Vanja Kaliterna, MD, PhD<br>Assist. Prof. Antonela Matana, PhD<br>Associates from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 25 | 25 | 40 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Up to 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | - Explain the structure and function of hereditary material in humans (DNA, RNA, genes, chromosomes, genome)<br>- Distinguish basic patterns of human inheritance (Mendel and non-Mendel);<br>- Classify basic methods of molecular biology with application in medicine;<br>- Explain the principles on which the most important methods for molecular analysis are based (isolation and analysis of DNA and RNA, PCR and variants, methods with restriction enzymes, hybridization, sequencing, cloning, cytogenetic and proteomic methods);<br>- Describe and analyze the plan for application of molecular methods in different segments of molecular diagnostics (monogenic diseases, infectious diseases, oncology, pharmacogenetics, forensic medicine);<br>- Perform the basic molecular methods (DNA and RNA isolation, PCR, QPCR, agarose gel electrophoresis). |

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

| Teaching Methods | Topic | No. of student hours |
|---|---|---|
| L | L1 Introduction to Genetics and Genomics | 2 |
| S | S1 Structure of the human genome | 1 |
| L | L2 Overview of the structure and function of nucleic acids. DNA mutations | 2 |
| S | S2 Genes, inheritance, environment | 2 |
| L | L3 Transmission of genetic information | 2 |
| S | S3 Principles of analysis of genetic variants (PCR and variants) | 2 |
| L | L4 Genes and chromosomes | 2 |
| S | S4 Principles of Quantitative Analysis of Genetic Variants (QPCR) | 2 |
| L | L5 Gene expression and epigenetics | 2 |
| S | S5 DNA polymorphism and identification | 2 |
| L | L6 Inheritance patterns in humans | 2 |
| S | S6 Molecular analyses in genomics and proteomics | 2 |
| L | L7 Principles of genetic testing of DNA and RNA | 2 |
| S | S7 Classical methods of nucleic acid sequencing | 2 |
| L | L8 Molecular detection of hereditary and non-hereditary diseases | 2 |
| S | S8 Next generation sequencing | 2 |
| L | L9 Molecular techniques in pediatrics and fetal medicine | 2 |

| | | | |
|---|---|---|---|
| | S | S9 Prenatal and postnatal diagnosis of monogenic diseases | 2 |
| | L | L10 Molecular diagnosis of tumors | 2 |
| | S | S10 Molecular analysis of hereditary and non-hereditary tumor forms | 2 |
| | L | L11 Molecular techniques in microorganism identification | 2 |
| | S | S11 Molecular analysis of genome- whole genome analysis | 2 |
| | L | L12 Molecular techniques in pharmacogenomics | 2 |
| | S | S12 Molecular cytogenetics | 2 |
| | L | L13 Genetic counseling and ethical aspectsof genetic testing | 1 |
| | S | S13 Molecular analysis in forensic medicine | 1 |
| | E | E1 Isolation of DNA from a blood sample | 3 |
| | E | E2 Isolation of DNA from paraffin-embedded tissue | 3 |
| | E | E3 Isolation of RNA from a blood sample | 3 |
| | E | E4 Analysis of DNA and RNA quality and concentration | 3 |
| | E | E5 Creating primers for PCR analysis | 3 |
| | E | E6 Preparation of mixture for PCR; PCR analysis for specific genes | 3 |
| | E | E7 Electrophoresis of DNA and PCR products | 3 |
| | E | E8 DNA sequencing (by Sanger and NGS) | 3 |
| | E | E9 Analysis of sequencing results | 3 |
| | E | E10 Genetic Databases | 3 |
| | E | E11 Whole-genome analyses | 3 |
| | E | E12 Preparing and basic reading of karyotypes | 4 |
| | E | E13 Use of reference management tools | 3 |

| | | |
|---|---|---|
| Format of instruction | x☐ lectures<br>x☐ seminars and workshops<br>x☐ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | x☐ independent assignments<br>x☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning) | |

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

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

| Evaluation indicator | Success (points) | Share in grade (%) |
|---|---|---|
| Attendance and activity at lectures and seminars for 100% attendance | 5 | 10 |
| Experimental work (practicals) | 15 | 30 |
| Written exam *** | 30 | 60 |
| **Total** | **100** | **100** |

**RATIO OF SUCCESS AND EVALUATION**

| Achieved success percentage (%) | Criteria | Grade |
|---|---|---|

| | | | |
|---|---|---|---|
| | 65-74 | meets the minimum criteria | sufficient (2) |
| | 75-82 | average success | good (3) |
| | 83-92 | above-average success | very good (4) |
| | 93-100 | exceptional success | excellent (5) |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | 1. RJ Trent. Molecular medicine (4. edition), Elsevier Academic Press, 2012. | | |
| | 2. Methods in molecular Biology, Institute Ruđer Bošković, A. Ambriović Ristov ed., Zagreb, 2007. | | |
| | 3. Handbook for seminars and exercises from the course Molecular Biology Techniques in Medicine, UDHS, 2022. | | |
| Optional literature (at the time of submission of study programme proposal) | 1. Written materials of the lecturer<br>2. Buckingham L. Molecular Diagnostics: Fundamentals, Methods, and Clinical Applications 3rd Edition, F.A. Davis Company; 2019. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | Laboratory Immunology and Immunochemistry | | | | | |
|---|---|---|---|---|---|---|
| **Code** | ZSL622 | Year of study | 3 | | | |
| Course teacher | Assistant professor; Esma Čečuk, PhD | Credits (ECTS) | 5 | | | |
| Associate teachers | Associates from teaching bases | Type of instruction (number of hours) | L | S | E | T |
| | | | 20 | 15 | 50 | |
| Status of the course | Mandatory | Percentage of application of e-learning | 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course, students will be able to:<br>- Explain the organization of the immune system;<br>- Connect the organization of the immune system;<br>- Present the organization of the immune system;<br>- Explain the terminology essential for performance of analytical procedures in laboratory diagnostics;<br>- Perform immunoassays in biological material;<br>Set priorities in the process of collecting and storing samples for determining the antibody and complement concentration. |

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

| | | |
|---|---|---|
| L | Immunoreaction, nonspecific immunity, specific immunity | 2 |
| L | Antibodies | 1 |
| L | Antigenes | 1 |
| L | Complement | 1 |
| L | Cytokines | 1 |
| L | Anitgen – antibodies reaction | 1 |
| L | Laboratory immunodiagnostics | 1 |
| L | Immunochemistry methods in laboratory medicine | 1 |
| L | Immunochemistry methods standardization | 2 |
| L | Major human histocompatibility complex | 3 |
| L | Biological role of HLA system | 2 |
| L | Peptide processing and presentation | 2 |
| L | Natural killer cell receptors –KIR | 2 |
| S | Limphatic organs and tissues | 2 |
| S | Auto-antibodies | 2 |
| S | Interleukin 6 | 2 |
| S | HLA genes and autoimmune diseases | 2 |
| S | Golden standards in solid organ transplantation | 2 |
| S | Antibodies production | 2 |
| S | Quality control in immunochemistry | 1 |
| S | Immunochemical interaction interferences | 2 |
| E | Molecular methods for HLA allele determination – PCR-SSO | 5 |
| E | Microlymphocytotoxicity test – serology method for HLA antigene determination | 5 |
| E | Reagens preparation for immunchemistry analysis | 5 |
| E | ELISA test specificity and sensitivity | 5 |
| E | Multiplex technology | 5 |
| E | Immuofixation | 5 |
| E | Indirect immunoflourescence | 5 |
| E | Immunoblot analysis | 5 |

| | | | |
|---|---|---|---|
| | E | Molecular methods for HLA allele determination – PCR-SSP | 5 |
| | E | Serum screening | 5 |

| | | |
|---|---|---|
| Format of instruction | ☑ lectures<br>☑ seminars and workshops<br>☑ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☑ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Class attendance | 0,33 | Research | | Practical training | |
| | Experimental work | 0,2 | Report | | | |
| | Essay | 0,13 | Seminar essay | 0,33 | (Other) | |
| | Tests | | Oral exam | | (Other) | |
| | Written exam | 4 | Project | | (Other) | |

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

| **Achieved success percentage (%)** | **Grading criteria** | **Grade** |
|---|---|---|
| 65-74 | meets minimum criteria | sufficient (2) |
| 75-82 | average success | good (3) |
| 83-92 | above average success | very good (4) |
| 93-100 | exceptional success | excellent (5) |

**RATIO OF SUCCESS AND EVALUATION**

| **Verification indicators** | **Performance (points)** | **Share in grade (%)** |
|---|---|---|
| Class attendance and activity | 5 | 6,67 |
| Seminar essay | 5 | 6,67 |
| Experimental work | 3 | 4 |
| Essay | 2 | 2,67 |
| Written exam | 60 | 80 |
| **In total** | **75** | **100** |

Required literature (available in the library and via other media)

| **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|
| Andreis - Imunologija, Medicinska naklada, 2004 | | |
| Dodig S. Imunokemija, Medicinska naklada, Zagreb, 2015 | | |
| | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | Holmes KL, Otten G, Yokoyama WH: Flow cytometry analysis using the Becton Dickinson FACS Calibur. Current protocols in immunology, 2002. |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Automation in MLD | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL623** | Year of study | 3. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 2 | | | |
| Associate teachers | Nada Bilopavlović, PhD, Assistant professor<br>mag. Petra Filipi, European Specialist in Laboratory Medicine (EuSpLM)<br>mag. Branka Krešić, European Specialist in Laboratory Medicine (EuSpLM) | Type of instruction (number of hours) | L | S | E | T |
| | | | 6 | 4 | 25 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Till 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Explain the operating principles in preanalytical automation and robotics<br>- Explain the operating principles of different analysers in the analytical procedure<br>- Prepare the analysers for analytical procedure in the clinical laboratory;<br>- Perform controlling of the proper operation of device<br>- Assess the role and importance of information technology (laboratory and hospital information system) in the organization of biochemical laboratory |

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

| | | |
|---|---|---|
| L,S,E | Application of automatic analyzers in medical laboratory diagnostics | 2,1,5 |
| L,E | Immunochemistry analyzers | 1,5 |
| L,S,E | Flow cytometry | 1,1,5 |
| L,S,E | Automation in hematology and coagulation | 1,1,5 |
| L,S,E | Biochemical analyzers | 1,1,5 |

| | | |
|---|---|---|
| Format of instruction | x lectures<br>x seminars and workshops<br>x exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | x independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning) | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0,22 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | 0,44 | Oral exam | | (Other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *ECTS value of the course)* | Written exam | 1,33 | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | Written exam | | | | | |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | B. Štraus, J. Petrik : Automatizacija i informatizacija u laboratoriju u Štrausova medicinska biokemija D. Čvorišćec, I. Čepelak Medicinska naklada, Zagreb, 2009. | | |
| | E. Topić, D. Primorac, S. Janković, M. Stefanović i sur. Medicinskobiokemijska dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2018. | | |
| | I. Čepelak, B. Labar, B. Štraus, S. Dodig Medicinsko-biokemijske smjernice, *Medicinska naklada, Zagreb, 2004.* | | |
| | L. Thomas Clinical Laboratory Diagnostics, TH Books, 1998. | | |
| | Laboratorijske pretrage uz bolesnika (priručnik). Hrvatska komora medicinskih biokemičara, Zagreb, 2005. Urednik: Dunja Rogić | | |
| | Rogić D. Pretrage uz bolesnika: iskustva iz KBC Zagreb i budući razvoj u Priručnik «Organizacija i upravljenje laboratorijem», Hrvatska komora medicinskih biokemičara, Zagreb, 2004. Urednice: Dubravka Čvorišćec i Ana Stavljenić-Rukavina | | |
| | | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | C.P. Price, A. St.John Point-of-care testing. U C.A. Burtis, E.R. Aschwood, D.E. Burns, ur. Tietz Textbook of Clinical Chemistry and molecular Diagnostics. 8. izdanje. St. Luis: Elsevier Saunders, 2018.<br>NACB Laboratory Medicine Practice Guidelines: Evidence-based Practice for POCT. The National Academy of Clinical Biochemistry Published Laboratory Medicine Practice Guidelines: Homepage: www.aacc.org<br>NACB Laboratory Medicine Practice Guidelines: The National Academy of Clinical Biochemistry Published Laboratory Medicine Practice Guidelines: Homepage: www.aacc.org koji se odnose na automatizaciju rada u laboratoriju |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Quality Control in MLD | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL624** | Year of study | 3. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 2 | | | |
| Associate teachers | Slavica Dajak, PhD, Assistant professor<br>mag. Lada Stanišić, European Specialist in Laboratory Medicine (EuSpLM)<br>Biljana Berda, univ. spec. oec.<br>Nina Ipavec, dr. med. | Type of instruction (number of hours) | L | S | E | T |
| | | | 6 | 4 | 25 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Till 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Prepare control samples of biological material<br>- Perform daily and external quality control of defined analytes<br>- Explain the importance of keeping logs to control inaccuracies and imprecisions<br>- Know how to prepare a pool of serum<br>- Describe the organizational and technical requirements of the international standard of the quality management system in the laboratory for transfusion medicine |

| Course content broken down in detail by weekly class schedule (syllabus) | | |
|---|---|---|
| L,S,E | Quality control in preanalytical phase. | 1,1,3 |
| L,S,E | Analytical phase - control of inaccuracy and imprecision | 1,1,5 |
| L,E | Control of equipment and supplies. Control of reactions and reagens. | 1,5 |
| L,E | Post-analytical phase. Quality Manual | 1,5 |
| L,S,E | External quality control | 1,1,4 |
| L,S,E | Laboratory accreditation | 1,1,3 |

| Format of instruction | |
|---|---|
| x lectures<br>x seminars and workshops<br>x exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | x independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning) |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0,22 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | 0,44 | Oral exam | | (Other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *ECTS value of the course)* | Written exam | 1,33 | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | Written exam | | | | | |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | E. Topić, D. Primorac, S. Janković, M. Stefanović i sur. Medicinskobiokemijska dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2018. | | |
| | D. Čvorišćec, I. Čepelak Štrausova Medicinska biokemija, Medicinska naklada, Zagreb, 2009. | | |
| | A. Stavljenić Rukavina, D. Čvoriščec Organizacija i upravljanje u medicinskom laboratoriju Priručnik za trajno usavršavanje Hrvatske komore medicinskih biokemičara, Medicinska naklada Zagreb, 2004 | | |
| | S. Galjanić, I. Vukasović, Z. Flegar-Meštrić Akreditacija medicinko-biokemijskog laboratorija. Priručnik za trajno usavršavanje Hrvatske komore medicinskih biokemičara, Medicinska naklada, Zagreb, 2010. | | |
| | J. Sertić i sur. Klinička kemija i molekularna dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2015. | | |
| | Laboratory Quality Management System Handbook, WHO, Clinical and laboratory standards institute (CLSI), 2011. | | |
| | | | |

| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | W.G. Guder, S. Narayanan, H. Wisser, B. Zawta Diagnostic Samples: From the Patient to the Laboratory: The Impact of Preanalytical Variables on the Quality of Laboratory Results, 4th, Updated Edition, Git Vwerlag GMBH, 2009. |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation |
| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Clinical Skills III | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL617** | Year of study | 3. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 7. | | | |
| Associate teachers | Associates from teaching bases | Type of instruction (number of hours) | L | S | PCE | CE |
| | | | 10 | 10 | 125 | |
| Status of the course | Mandatory | Percentage of application of e-learning | Till 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Develop the skill for working with biochemical analyzers<br>- Develop the skill for working with immunochemical analyzers<br>- Develop the skill for working with hematology analyzers<br>- Develop the skill of working with immunohematological analyzers<br>- Develop the skill of working with coagulation analyzers<br>- Develop the skill for working with molecular analyzers<br>- Explain the operation of the flow cytometer |

| Course content broken down in detail by weekly class schedule (syllabus) | | |
|---|---|---|
| | | |
| L,S | Organization of medical laboratory services, collection, processing and storage of collected samples | 10,10 |
| E | Clinical skills in medical biochemistry laboratory | 45 |
| E | Clinical skills in transfusion center | 20 |
| E | Clinical skills in pathohistological and citology laboratory | 10 |
| E | Clinical Skills in microbiological laboratory | 15 |
| E | Clinical skills in laboratory for molecular diagnostics | 10 |
| E | Visit to a fully automated laboratory and field teaching | 25 |
| | . | |

| Format of instruction | | |
|---|---|---|
| | x lectures<br>x seminars and workshops<br>x exercises<br>☐ *on line* in entirety<br>x partial e-learning<br>x field work | ☐ independent assignments<br>☐ multimedia<br>x laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning). | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 1 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | 6 | Oral exam | | (Other) | |
| | Written exam | | Project | | (Other) | |
| Grading and evaluating student | Written exam | | | | | |

| | | | |
|---|---|---|---|
| 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** |
| | C.A. Burtis, E.R. Aschwood, D.E. Burns, ur. Tietz Textbook of Clinical Chemistry and molecular Diagnostics. 8. izdanje. St. Luis: Elsevier Saunders, 2018, odabrana poglavlja | | |
| | E. Topić, D. Primorac, S. Janković, M. Stefanović i sur. Medicinskobiokemijska dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2018. | | |
| | D. Čvorišćec, I. Čepelak Štrausova Medicinska biokemija, Medicinska naklada, Zagreb, 2009. | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | W.G. Guder, S. Narayanan, H. Wisser, B. Zawta Diagnostic Samples: From the Patient to the Laboratory: The Impact of Preanalytical Variables on the Quality of Laboratory Results, 4th, Updated Edition, Git Vwerlag GMBH, 2009. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | Urgent Laboratory Diagnostics | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL625** | Year of study | 3. | | | |
| Course teacher | Daniela Šupe-Domić, PhD, Assistant professor | Credits (ECTS) | 2. | | | |
| Associate teachers | Sanda Stojanović Stipić, PhD, Assistant professor | Type of instruction (number of hours) | L | S | E | T |
| | | | 10 | 5 | 15 | |
| Status of the course | Elective | Percentage of application of e-learning | Till 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | No requirements |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the course the student will be able to:<br>- Explain the program of emergency laboratory tests<br>- Present the program of emergency laboratory tests<br>- Explain the selection of urgent tests for individual certain emergencies<br>- Explain the results of emergency analyzes in individual conditions<br>- Interpret and recognize changes in laboratory findings in acute complications |

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

| | | |
|---|---|---|
| L | Classification of laboratory tests within urgent diagnosis: very urgent, urgent and conditionally urgent | 2 |
| L,S,E | Test selection in clinical laboratory medicine for evaluation of emergency patients | 2,1,3 |
| L,S,E | Selection of urgent tests, time sequence of monitoring their changes | 2,1,3 |
| L,S,E | Planned diagnostic procedures, establishing the final diagnosis and monitoring of treatment | 2,1,3 |
| L,S,E | Device selection | 1,1,3 |
| L,S,E | Advantages and disadvantages of POCT | 1,1,3 |

| | | |
|---|---|---|
| Format of instruction | x lectures<br>x seminars and workshops<br>x exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning). | |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | | Oral exam | | (Other) | |
| | Written exam | 2.0 | Project | | (Other) | |
| Grading and evaluating student | Written exam | | | | | |

| | | | |
|---|---|---|---|
| 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** |
| | E. Topić, D. Primorac, S. Janković, M. Stefanović i sur. Medicinskobiokemijska dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2018. | | |
| | J. Sertić i sur. Klinička kemija i molekularna dijagnostika u kliničkoj praksi, 2. dopunjeno i izmijenjeno izdanje, Medicinska naklada, Zagreb, 2015. | | |
| | D. Čvorišćec, I. Čepelak Štrausova Medicinska biokemija, Medicinska naklada, Zagreb, 2009. | | |
| | *J. Sertić Katalog dijagnostičkih laboratorijskih pretraga s primjerima iz kliničke prakse, Medicinska naklada, Zagreb, 2011.* | | |
| | I. Čepelak, B. Labar, B. Štraus, S. Dodig Medicinsko-biokemijske smjernice, *Medicinska naklada, Zagreb, 2004.* | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | C.P. Price, A. St.John Point-of-care testing. U: C.A. Burtis, E.R. Aschwood, D.E. Burns, ur. Tietz Textbook of Clinical Chemistry and molecular Diagnostics. 8. izdanje. St. Luis: Elsevier Saunders, 2018. | | |
| Quality assurance methods that ensure the acquisition of exit competences | ▪ Teaching quality analysis by students and teachers<br>▪ Exam passing rate analysis<br>▪ Committee for control of teaching reports<br>▪ External evaluation | | |
| Other (as the proposer wishes to add) | | | |

| NAME OF THE COURSE | Imunogenetics | | | | | |
|---|---|---|---|---|---|---|
| **Code** | **ZSL 629** | Year of study | 3 | | | |
| Course teacher | Assistan Professor Esma Čečuk-Jeličić | Credits (ECTS) | 2 | | | |
| Associate teachers | Sonja Jaman, mag.biol.mol. | Type of instruction (number of hours) | L | S | E | T |
| | | | 15 | 5 | 20 | |
| Status of the course | Elective | Percentage of application of e-learning | 10% | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course enrolment requirements and entry competences required for the course | passed exam Laboratory Haematology and Coagulation<br>(2nd year of undergraduate study MLD) |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | • Recall the historical development of the HLA system, describe the terminology of the HLA system, list and classify the terms polymorphism, phenotype / haplotype, linkage disequilibrium and allele frequencies<br>• Describe the structure and function of class I and II antigens and genes, explain the methods to determinate the antigens of the HLA system using the serological and molecular methods such as the polymerase chain reaction (PCR-SSP / PCR-SSO)<br>• Explain the differences between serological methods and molecular methods in the determination of antigens and genes of the HLA system<br>• Describe the structure of antibodies, state the importance of monitoring sensitizations to HLA antigens<br>• Show a test to determine the percentage of HLA sensitization in patients who are on the waiting list (complement-dependent cytotoxicity test)<br>• Tell about the connection of certain genes / antigens of the HLA system with certain diseases (celiac disease, narcolepsy, ankylosing spondylitis, rheumatoid arthritis, psoriasis)<br>• Emphasize the importance of determining the HLA tissue antigens and genes in disease diagnosis<br>• Explain the historical facts of transplant medicine, explain the importance of matching recipients and donors for HLA alleles as well as the time those patients carry the transplant, interpret the importance of the cross-reaction tests that are used before solid organ transplantation<br>• Explain the recipient picking process using the National and World Registers as well as the basic elements used during the process of selecting a donor and putting an emphasize on encouragement of people to join the Croatian Register of Voluntary Donors |

| Course content broken down in detail by weekly class schedule (syllabus) | | | |
|---|---|---|---|
| | L1. | **Historical overview and an introduction to the HLA system**<br>• Historical development of the HLA system<br>• Definition of the HLA system<br>• Defining the arrengement of the HLA region | 1 |
| | L2. | **HLA / 1 system properties**<br>• HLA system terminology<br>• HLA system polymorphism<br>• Phenotype / genotype / haplotype | 1 |
| | L3. | **HLA / 2 system properties**<br>• Linkage disequilibrium<br>• Tissue representation | 1 |
| | L4. | **Class I HLA antigens**<br>• Structure and function of the HLA class I genes<br>• HLA Class I Loci | 1 |
| | L5. | **HLA class II antigens** | 1 |

| | | | |
|---|---|---|---|
| | | • Structure and function of the HLA class II genes<br>• HLA Class II Loci | |
| | L6. | **HLA antibodies**<br>• HLA antibody structure<br>• Presence of the HLA antibodies in the body<br>• HLA sensibilization process<br>• Importance of the anti-HLA antibodies in tissue and organ transplantation and in transfusion medicine | 1 |
| | L7. | **Biological importance of the HLA system**<br>• Population genetics<br>• Anthropology | 1 |
| | L8. | **Significance of the HLA system in clinical practice**<br>• Medical diagnostics<br>• Transplant medicine<br>• Transfusion medicine. | 1 |
| | L9. | **The role of the HLA system in solid organ transplantation**<br>• Historical overview of transplantation in the world and the beginning of transplantation in Croatia<br>• Types of transplantation<br>• The importance of matching in the HLA system for organ transplant survival | 1 |
| | L10. | **Transplantation waiting lists**<br>• Functioning of the Tissue Typing Laboratory within the Eurotransplant system<br>• Criteria for patient registration for a waiting list for solid organ transplantation (kidney, liver, heart, pancreas)<br>• Methods of HLA typing of living and dead organ donors | 1 |
| | L11. | **HLA system in hematopoietic stem cell transplantation**<br>• Historical overview of hematopoietic stem cell transplantation (HSCT) in the world and in Croatia<br>• Immunogenetic relationships of recipients and donors in HSCT<br>• Unrelated HSCT<br>• World Registry of Unrelated Voluntary Donors. | 1 |
| | L12. | **Relationship between the HLA system and diseases**<br>• Association of certain genes / antigens of the HLA system with diseases (celiac disease, narcolepsy, rheumatoid arthritis, etc.) | 1 |
| | L13 | **HLA system in transfusion medicine**<br>• The importance of the HLA system in transfusion medicine, especially in patients on the waiting list for organ transplantations<br>• Post-transfusion reactions | 1 |
| | L14 | **Methods of laboratory diagnostics of the HLA system: genes / antigens**<br>• Microlymphocytotoxicity test<br>• Molecular diagnostics<br>• Transplant tests. | 1 |
| | L15 | **Quality control in the Tissue Typing Laboratory**<br>• Operating instructions<br>• Standard operating procedures<br>• Internal and external controls<br>• Problem log. | 1 |
| | | | |
| | PV1-2 | **Determination of HLA antigen**<br>• Peripheral blood collection | 2 |

| | | | |
|---|---|---|---|
| | | • Separation of lymphocytes on a density gradient<br>• Store samples at -80 ˚C | |
| | PV3-7 | **Serological testing of HLA system antigens**<br>• Determining the number and viability of lymphocytes<br>• Setting up the MLCT test<br>• Adding a complement<br>• Staining, reading reactions and analysis of results | 5 |
| | PV8-12 | **Determination of HLA class I and class II antibodies**<br>• Thawing of lymphocyte panels<br>• Preparation of serum samples<br>• Checking cell viability<br>• Examination for the presence of anti - HLA antibodies and determination of serum specificity (screening<br>• Performing a crossmatching-test | 5 |
| | PV13-16 | **Determination of HLA antibodies in the posttransfusion reaction**<br>• Sample collection<br>• Preparation of serum samples<br>• Preparation of stations for test<br>• Performing the MLCT test<br>• Reading reactions, analysis of results | 4 |
| | PV17-20 | **Molecular testing of the HLA gene - PCR-SSO**<br>• Isolation of DNA from blood samples by commercial kit<br>• PCR setup<br>• Work on the Luminex machine | 4 |
| | | | |
| | S1 | HLA-DQA1 / B1 genes in patients with celiac disease | 1 |
| | S2 | Association of HLA-DRB1 * 11 and HLA-DQB1 * 03 loci with Lichen planopilarus | 1 |
| | S3 | HLA system polymorphism in unrelated donor search in S4. hematopoietic stem cell transplantation | 1 |
| | S4 | PCR-SSP method in cadaveric solid organ transplantation | 1 |
| | S5 | Diversity of HLA-A, HLA-B and HLA-DRB1 alleles and haplotypes in voluntary donors in the Croatian Hematopoietic Stem Cell Registry | 1 |

| | | |
|---|---|---|
| Format of instruction | ☒lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☒ independent assignments<br>☐ multimedia<br>☒ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attend classes ordinarily.<br>Actively participate in teaching activities.<br>Own an active password for AAI @ EduHr electronic identity (for access to e-learning). | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal* | Class attendance | 0,2 | Research | | Practical training | |
| | Experimental work | | Report | | | |
| | Essay | 0,2 | Seminar essay | | (Other) | |
| | Tests | | Oral exam | | (Other) | |
| | Written exam | 1,6 | Project | | (Other) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *to the ECTS value of the course)* | | | | | | |

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

| Achieved success percentage (%) | Grading criteria | Grade |
|---|---|---|
| 60-69,9 | meets minimum criteria | sufficient (2) |
| 70-79,9 | average success | good (3) |
| 80-89,9 | above average success | very good (4) |
| 90-100 | exceptional success | excellent (5) |

**RATIO OF SUCCESS AND EVALUATION**

| Verification indicators | Performance (points) | Share in grade (%) |
|---|---|---|
| Class attendance and activity | 5 | 10 |
| Seminar Essay | 5 | 10 |
| Written exam | 40 | 80 |
| **In total** | **50** | **100** |

**Required literature (available in the library and via other media)**

| Title | Number of copies in the library | Availability via other media |
|---|---|---|
| Andreis I, Batinić D, Čulo F, Grčević D, Marušić M, Taradi M, Višnjić D. Imunologija. Medicinska naklada, Zagreb, 2004, VI. izdanje – odabrana poglavlja | | |
| Nataša Katalinić, Sanja Balen - Sustav HLA u kliničkoj praksi ( izdavač - Sveučilište J.J.Strossmeyera, Fakultet za dentalnu medicinu i zdravstvo, Osijek) | | |
| | | |

**Optional literature (at the time of submission of study programme proposal)**

1. Marsh S.G.E., Parham P., Barber L.D. The HLA facts book. London: Academic Press, 2000.
2. Boris Labar i sur., Hematologija, Zagreb, Školska knjiga, 2007.
3. Marinović I, Kaliterna DM, Smoljanović M, Radić M, Čečuk-Jeličić E, Bogdanić D, Pivalica D. The prevalence of rheumatoid arthritis in Split-Dalmatia County in southern Croatia is 0.24. *Joint Bone Spine.* 2015.
4. Esma Cecuk-Jelicic, Vesna Kerhin-Brkljacic, Zorana Grubic, Boris Labar. World's regisrty of bone marrow donors. Acta Med Croatica. 2009 Jun; 63(3):251-3
5. Grubić Z, Žunec R, Čečuk-Jeličić E, Kerhin-Brkljačić V, Kaštelan A (2000) Polymorphism of HLA-A, -B, -DRB1, -DQA1 and –DQB1 haplotypes in a Croatian population. Eur J Immunogen 27: 47-51
6. Žunec R, Grubić Z, Balen S, Važnost imunogenetike u transplataciji organa, Darivanje organa i transplatacijska medicina u Hrvatskoj, pregledni članak

**Quality assurance methods that ensure the acquisition of exit competences**

- Teaching quality analysis by students and teachers
- Exam passing rate analysis
- Committee for control of teaching reports
- External evaluation

**Other (as the proposer wishes to add)**

## VI. LIST OF COURSES, TEACHERS AND ASSOCIATES

| CODE | COURSE | COURSE TEACHERS |
|---|---|---|
| ZSZ634 | Informatics and Statistics in Health Care | Antonela Matana, PhD, Assistant Professor |
| ZSZ635 | Social and Health Legislation | Jozo Čizmić, full professor tenure<br>Nina Mišić Radanović, assistant professor |
| ZSZ604 | Basics of Health Care Management | Dejan Kružić, PhD, Full professor tenure |
| ZSZ605 | Ethics in Health Care | Ana Ćurković, PhD, Assistant professor<br>Ana Jeličić, PhD, Assistant professor |
| ZSZ606 | Physical Training I | Željko Kovačević, PhD Assistant Professor |
| ZSZ636 | English for Radiologic Technology I | Sonja Koren, MA, Senior lecturer |
| ZSZ608 | Health Care Psychology | Vesna Antičević, PhD, Associate professor |
| ZSZ609 | Communication Skills | Vesna Antičević, PhD, Associate professor |
| ZSZ610 | Hygiene and Epidemiology | Assoc. Prof. Anamarija Jurcev Savicevic, MD, PhD |
| ZSZ611 | Sociology of Health | Ana Ćurković, PhD, Assistant professor<br>Ana Jeličić, PhD, Assistant professor |
| ZSZ613 | Public Health | Assoc. Prof. Anamarija Jurcev Savicevic, MD, PhD<br>Full Professor Rosanda Mulic, MD, PhD<br>Asst. Prof. Iris Jerončić Tomić, MD, PhD<br>Asst. Prof. Ana Ćurković, MD<br>Asst. Prof. Željka Karin,MD, PhD<br>Asst. Prof. Ivana Marasović-Šušnjara, MD, PhD |
| ZSZ614 | Biochemistry | Full Prof. Irena Drmić Hofman, PhD |
| ZSZ615 | Biophysics | Prof. Ivica Aviani, PhD<br>Prof. Ante Bilušić, PhD<br>Mr. Darijo Radović, dr. med., senior lecturer |
| ZSZ616 | Anatomy | Prof. Ivica Grković, MD PhD<br>Prof. Ana Marušić, MD PhD<br>Prof. Katarina Vilović, MD PhD<br>Prof. Katarina Vukojević, MD PhD<br>Associates from teaching bases |
| ZSZ617 | Physiology | Assoc. Ante Obad, PhD, MD<br>Prof. Maja Valić, PhD, MD<br>Prof. Zoran Valić, PhD, MD |
| ZSZ618 | Biology | Sendi Kuret, PhD, Assistant Professor |
| ZSZ619 | Embryology and Histology | Full professor Snježana Mardešić |
| ZSZ620 | Basics of Nursing Care | Prof. Julije Meštrović, MD, PhD<br>Diana Aranza, master of Nursing |
| ZSL601 | Introduction to laboratory medicine | Assistant professor Daniela Šupe Domić, PhD<br>Assistant professor Esma Čečuk Jeličić, PhD<br>Assistant professor Zlatka Knezović, PhD<br>Assistant professor Sendi Kuret, PhD<br>Assistant professor Vesela Torlak Lovrić, PhD<br>Assitant professor Vanja Kaliterna, PhD<br>Irena Drmić Hofman, Full professor with tenure |

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| | | Davorka Sutlović, Full professor with tenure |
| ZSL602 | Mathematics | Antonela Matana, PhD, Assistant Professor |
| ZSL633 | General Chemistry and Stoichiometry | Davorka Sutlović, PhD, Full professor with tenure |
| ZSL603 | Organic Chemistry | Davorka Sutlović, PhD, Full professor with tenure |
| ZSL632 | Analytical Chemistry | Davorka Sutlović, PhD, Full professor with tenure |
| ZSL605 | Clinical Skills I | Assistant professor Daniela Šupe Domić, PhD<br>Associates from teaching bases |
| ZSZ621 | Introduction to Scientific Work | Davorka Sutlović, PhD, Full professor with tenur<br>Vjekoslav Krželj, PhD, Full professor with tenor<br>Frane Mihanović, PhD, Assistant professor<br>Sendi Kuret, PhD, Assistant professor<br>Ante Burger, PhD, Assistant professor<br>Diana Aranza, lecturer<br>Mario Marendić, lecturer<br>Mario Podrug, assistant |
| ZSZ622 | Use of Scientific Technology | Antonela Matana, PhD Assistant Professor |
| ZSZ623 | Physical Training II | Željko Kovačević, PhD, Assistant Professor |
| ZSZ637 | English for Radiologic Technology II | Sonja Koren, MA, Senior lecturer |
| ZSZ625 | Pathophysiology | Assist. Prof. Anteo Bradarić-Šlujo, MD, PhD<br>Associates from teaching bases |
| ZSZ626 | Pathology | Prof.dr.sc. Valdi Pešutić-Pisac<br>Prof.dr.sc. Šimun Anđelinović MDPhD ; |
| ZSZ627 | Microbiology with Parasitology | asst. prof. *Vanja Kaliterna*, M.D., PhD, clinical microbiology specialist<br>asst. prof. *Anita Novak*,<br>M.D., PhD, clinical microbiology specialist<br>asst. prof. *Katarina Šiško Kraljević*, M.D., PhD, clinical microbiology specialist<br>asst. prof. *Merica Carev*,<br>M.D., PhD, clinical microbiology specialist<br>*Associates from teaching bases* |
| ZSZ628 | Pharmacology | Mladen Boban, MD, Full Professor<br>Ivana Mudnić, Associate Professor<br>Associates from teaching bases |
| ZSL606 | Basics of haematology and coagulation | Assistant professor Esma Čečuk Jeličić, PhD<br>Assistant professor Slavica Dajak, PhD<br>Assistant professor Leida Tandara, PhD<br>Assistant professor Nada Bilopavlović, PhD |
| ZSL607 | Physical methods in MLD | Assistant professor Daniela Šupe Domić, PhD<br>Assistant professor Leida Tandara, PhD |
| ZSL608 | Biochemistry II | Irena Drmić Hofman, Full professor with tenure<br>Assistant professor Daniela Šupe Domić, PhD<br>Assistant professor Nada Bilopavlović, PhD<br>Assistant professor Sendi Kuret, PhD |
| ZSL609 | Cellular biology with genetics basics | Assistant professor Sendi Kuret, PhD |
| ZSL610 | Cytology and Histology | Assistant professor Dinka Šundov, PhD<br>Full professor Merica Glavina Durdov |
| ZSL611 | Laboratory histopathological techniques | Full professor Merica Glavina Durdov<br>Associate professor Snježana Mardešić<br>Full professor Katarina Vukojević |

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| ZSL612 | Instrumental techniques in MLD | Davorka Sutlović, PhD, Full professor with tenure<br>Assistant professor Zlatka Knezović, PhD<br>Assistant professor Vesela Torlak Lovrić, PhD<br>Assistant professor Sendi Kuret, PhD |
| ZSL613 | Computer processing of laboratory data (LIS) | Assistant professor Leida Tandara, PhD<br>Assistant professor Frane Mihanović, PhD |
| ZSL616 | Clinical Skills II | Assistant professor Daniela Šupe Domić, PhD<br>Associates from teaching bases |
| ZSL615 | Food Toxicology | Assistant professor Zlatka Knezović, PhD<br>Davorka Sutlović, PhD, Full professor with tenure |
| ZSZ630 | Emergencies in Medicine | Mihajlo Lojpur, M.D., Ph.D, Assistant Professor<br>Associates from teaching bases |
| ZSL617 | Clinical Biochemistry | Assistant professor Nada Bilopavlović, PhD<br>Assistant professor Daniela Šupe Domić, PhD<br>Assistant professor Leida Tandara, PhD |
| ZSL618 | Basics of Transfusion Medicine and Transplantation | Assistant professor Slavica Dajak, PhD<br>Assistant professor Esma Čečuk Jeličić, PhD<br>Assistant professor Dejana Bogdanić, PhD |
| ZSL619 | Clinical Microbiology | Assistant professor Vanja Kaliterna, PhD<br>Associates from teaching bases |
| ZSL620 | Laboratory Haematology and Coagulation | Assistant professor Nada Bilopavlović, PhD<br>Assistant professor Leida Tandara, PhD<br>Associates from teaching bases |
| ZSL621 | Molecular Biology Techniques in Medicine | Irena Drmić Hofman, Full professor with tenure<br>Assistant professor Sendi Kuret, PhD<br>Assistant professor Vanja Kaliterna, PhD |
| ZSL622 | Laboratory Immunology and Immunochemistry | Assistant professor Esma Čečuk Jeličić, PhD<br>Associates from teaching bases |
| ZSL623 | Automation in MLD | Assistant professor Daniela Šupe Domić, PhD<br>Assistant professor Nada Bilopavlović, PhD<br>Associates from teaching bases |
| ZSL624 | Quality control in MLD | Assistant professor Daniela Šupe Domić, PhD<br>Assistant professor Slavica Dajak, PhD<br>Associates from teaching bases |
| ZSL627 | Clinical Skills III | Assistant professor Daniela Šupe Domić, PhD<br>Associates from teaching bases |
| ZSL628 | Bachelor's Thesis | |
| ZSL625 | Urgent laboratory diagnostics | Assistant professor Daniela Šupe Domić, PhD<br>Assistant professor Sanda Stojanović Stipić, MD, PhD |
| ZSL629 | Immunogenetics | Assistant professor Esma Čečuk Jeličić, PhD |

## VII. CURRICULUM VITAE OF TEACHERS AND ASSOCIATES

In alphabetical order:

| **Title, name and last name** | **Associate professor Vesna Antičević, PhD** |
|---|---|
| Title of the course at the proposed study programme | Health Care Psychology<br>Communication Skills |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | vesna.anticevic@ozs.unist.hr |
| Year of birth | 1965 |
| Scientist ID | 336020 |
| CROSBI profile ID | 31537 |
| Research rank and date of the last appointment | Associate professor 2020 |
| Research and teaching or teaching rank, and the date of the last appointment | Associate professor |
| Area and field of appointment into research rank | Social sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Department of Health Studies |
| Date of employment | 2014 |
| Job title (professor, researcher, associate teacher, etc.) | professor |
| Field of research | Social sciences |
| Position in the institution | Head of the quality |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | University of Zagreb, University Department of Health Studies |
| Place | Zagreb |
| Date | 2012 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2004 |
| Place | Zagreb |
| Institution | University of Zagreb, University Department of Health Studies |
| Field of training | Postgraduate professional study |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Mother tongue | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English 4 |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | Germany 2 |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Undergaraduate studies:<br>Health psychology<br>Communication skills<br>Psychology of Pain<br>Biological basis of behavior<br>Psychology of disability<br>Psychology of lifelong learning<br>Graduate studies:<br>Communication and clinical assessment<br>Clinical care for psychiatric patients |

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| | English studies:<br>Educational psychology<br>Healthcare for persons with disabilities<br>Healthcare of psychiatric patients |
| Authorship of university textbooks from the field of the course | |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Dolić, Matea; Antičević, Vesna; Dolić, Krešimir; Pogorelić, Zenon<br>Difference in pandemic-related experiences and factors associated with sickness absence among nurses working in COVID-19 and non-COVID-19 departments (2022). International journal of environmental research and public health, 19, 3; 1093, 20 doi:10.3390/ijerph19031093<br>2. Dolić, Matea; Antičević, Vesna; Dolić, Krešimir; Pogorelić, Zenon. Questionnaire for assessing social contacts of nurses who worked with coronavirus patients during the first wave of the COVID-19 pandemic // Healthcare, 9 (2021), 8; 930, 9 doi:10.3390/healthcare9080930<br>3. Đapić Kolak, Zdravka; Antičević, Vesna<br>The effect of continuous training of nurses and carers on the protection of the health of users of the Nursing Home // Medica Jadertina, 48 (2018), 4; 207-216<br>4. ković, Stipan; Koren, Sanja; Šarić, Matea; Orlandini, Rahela; Antičević, Vesna; Švaljug, Deana; Buljubašić, Ante<br>The Croatian Model of University Education for Nurses // International Archives of Nursing and Health Care, 4 (2018), 2; 1-4 doi:10.23937/2469-5823/1510093<br>5. Klarin, Mira; Antičević, Vesna; Kardum, Goran; Proroković, Ana; Sindik, Joško<br>Communication and social skills in education of health occupation students: attitudes and validation on nationwide parallel group randomized study // Suvremena psihologija, 20 (2017), 1; 39-52 |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

| **Title, name and last name** | **Diana Aranza, Master of Nursing, lecturer** |
|---|---|
| Title of the course at the proposed study programme | Basics of Nursing Care |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | daranza@ozs.unist.hr |
| Year of birth | 1972. |
| Scientist ID | |
| CROSBI profile ID | 38136 |
| Research rank and date of the last appointment | |
| Research and teaching or teaching rank, and the date of the last appointment | Lecturer, 08.9.2017. |
| Area and field of appointment into research rank | Biomedicine and Health; Clinical Medical Sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University of Split; University Department of Health Studies |
| Date of employment | 8th September 2017. |
| Job title (professor, researcher, associate teacher, etc.) | Lecturer |
| Field of research | Nursing and midwifery |
| Position in the institution | |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Master of Nursing |
| Institution | University of Split; University Department of Health Studies |
| Place | Split, Croatia |
| Date | 9th July 2014. |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2017 – 2021. |
| Place | Split |
| Institution | University of Split; University Department of Health Studies |
| Field of training | - Expert Mentor. Completed training program for expert mentors, organized by the Ministry of Health of the Republic of Croatia within the European Union-funded Twinning project "Training of mentors for nurses and midwives in the health care system of the Republic of Croatia and implementation of the training curriculum in accordance with Directive 2005/36 / EC".<br>- KBC Split - Clinic for Paediatrics; Croatian Paediatric Society; Croatian Society for School and University Medicine; HUMS - Paediatric Society; University of Split – SOZS<br>- Cochrane Croatia_Systematic Reviews_Presentation 3 poster presentations (2018, 2019, 2020)<br>- Communication skills in working with students; basic small group leadership and teamwork skills; curriculum planning, implementation, and assessment; and the mentoring process.<br>- Nursing care of patients with stoma<br>- How to take care of yourself in COVID -19 pandemic |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Mother tongue | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English (3) |

| COMPETENCES FOR THE COURSE | |
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| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Professional subjects in the field of nursing and health care |
| Authorship of university textbooks from the field of the course | Midwifery care in the postpartum period and its complications – Co-authorship on a peer-reviewed university script<br>Introduction to Midwifery – Script<br>Midwifery care in gynecology – Script<br>Maternal and newborn health care – Script |
| Professional and research papers<br>published in the last five years from the field of the course **(max 5 references)** | Supičić Z, Puljić Z, Milić M, Aranza D. Health literacy of students at the University of Split: a cross-sectional study. Journal of Applied Health Sciences [Internet of Applied Health Sciences]. 2021; 7 (1): 25-35. https://doi.org/10.24141/1/7/1/3<br><br>Podrug M, Aranza D, Bazina AM, Krželj L, Milić M. Epidemiological characteristics of patients with arterial hypertension who sought emergency medical care in the Split-dalmatia county. Research in Physical Education, Sport and Health 2017; 6 (2): 53-57.<br><br>Puljić Z, Supičić Z, Milić M, Aranza D. Attitudes of University of Split students about psychiatric patients. Medica Jadertina [Internet]. 2021 [accessed 07.10.2021]; 51 (3): 201-209. Available at: https://hrcak.srce.hr/263139 (SCOPUS)<br><br>Podrug M, Aranza D, Marendić M, Buljubašić A, Orlandini R, Dolić M, Krželj V. Incidence of injuries of children treated at the Institute of Emergency Medicine of the Split-Dalmatia County. Paediatria Croatica. 2021 Mar 17; 65 (1): 21-6 (SCOPUS)<br><br>Puljić Z, Supičić Z, Milić M, Aranza D. Knowledge of students of the University of Split about psychiatric diseases: a cross-sectional study. Croatian Journal of Health Sciences [Internet]. 2021; 1 (1): 19-24. Available at: https://hrcak.srce.hr/257816 |
| Professional and research papers<br>In methodology and quality of teaching published in the last five years (**max 5 references**) | Aranza D, Milavić B, Marusic A, Buzov M, Poklepović Peričić T. A cross-sectional study on adaptation and initial validation of a test to evaluate health claims among high school students: Croatian version. BMJ Open. 2021 Aug 10;11(8):e048754. doi: 10.1136/bmjopen-2021-048754.<br><br>Puljak L, Čivljak M, Haramina A, Mališa S, Čavić D, Klinec D, Aranza D, Mesarić J, Skitarelić N, Zoranić S, Majstorović D, Neuberg M, Mikšić Š, Ivanišević K. Attitudes and concerns of undergraduate university health sciences students in Croatia regarding complete switch to e-learning during COVID-19 pandemic: a survey. BMC Med Educ. 2020 Nov 10;20(1):416. doi: 10.1186/s12909-020-02343-7. PMID: 33167960; PMCID: PMC7652670.<br><br>Books<br><br>Translation and adaptation: Aranza D, Poklepović Peričić T: Informed Health Choices Group. A book of good health decisions: How to think about treatment properly? A textbook on health for children in primary school. Available at: |

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| | https://www.informedhealthchoices.org/wp-content/uploads/2021/02/01_ChildrensBook_HR_CROATIA_web.pdf |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | **Coordinator:**<br>1. Institutional project of the University Department of Health Studies "Promoting health literacy in children and youth". PromoLit (SOZS-IP-2020-2).<br>**Project participant**:<br>1. Project of the Croatian Science Foundation (HRZZ IP-2014-09-7672) "Professionalism in health care" "Class: 003-08 / 11-03 / 0005, Reg. No .: 2181-198-03 -04 / 10-11 And Class: 003-08 / 13-03 / 0003, Reg. No .: 2181-198-03-04-13-0038). Project manager prof. dr. sc. Ana Marušić.<br>2. Erasmus + Project "Evidence Implementation in Clinical Practice" EICP (2020-l-DE0l-KA203-005669). Project manager doc. dr. sc. Tina Poklepović Peričić. |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Passed courses at the Graduate Study of Nursing: Pedagogy, Methodology and Didactics, Health Psychology, Communication Skills<br><br>Completed training program "Training of mentor educators" organized by the Ministry of Health of the Republic of Croatia within the Twinning project "Training of mentors for nurses and midwives in the health system in the Republic of Croatia and the implementation of educational curriculum in line with Directive 2005/36 / EC" (2018) . Acquisition of knowledge on the application of projects in personal and professional development, teaching and scientific research; possibilities of applying other models of innovative learning and teaching in health education.<br><br>Completed the continuing education course "Communication and Pedagogical Skills for Clinical Mentors" organised by the "Alumni" Association of Students of the University Department of Health Studies, University of Split (2020). Acquired knowledge of communication skills in working with students; basic skills of leading a small group and working in a team; planning, implementing and evaluating curricula and the mentoring process. |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Acknowledgment of the University Department of Health Studies for personal contribution to the publication of textbooks for children "Book of good health decisions: how to think about treatment", textbook on health for children in primary school and overall contribution to the work of the University Department of Health Studies |

| **Title, name and last name** | **Ivica Aviani, PhD, Professor** |
|---|---|
| Title of the course at the proposed study programme | Biophysics |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | iaviani@pmfst.hr |
| Personal web page | https://mapmf.pmfst.unist.hr/~iaviani/ |
| Year of birth | 1955 |
| Scientist ID | 76256 |
| CROSBI profile ID | 20158 |
| Research rank and date of the last appointment | Senior Scientist, 23/05/2018 |
| Research and teaching or teaching rank, and the date of the last appointment | Full Professor, 06/02/2019 |
| Area and field of appointment into research rank | Area of natural sciences – field of physics |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | Faculty of Science in Split |
| Date of employment | 05. 07. 2012. |
| Job title (professor, researcher, associate teacher, etc.) | Professor |
| Field of research | Solid State Physics, Biophysics, Physics Education |
| Position in the institution | Head of graduate studies in mathematics and physics; teaching major.<br>Head of graduate studies in physics; teaching major.<br>Head of the Laboratory for Structural Characterization of Samples.<br>Head of the Physics Teaching Methods Laboratory. |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | University of Zagreb, Faculty of Science |
| Place | Zagreb |
| Date | 20/07/1999 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | **2011** |
| Place | Vienna, Austria |
| Institution | Institute of Physical Chemistry |
| Area of training | Transport and Magnetic Properties of Thermoelectrics |
| Year | **2009.** |
| Place | Vienna, Austria |
| Institution | Institute of Physical Chemistry |
| Area of training | Transport Properties of Thermoelectrics |
| Year | **2007.** |
| Place | Cambridge, England |
| Institution | University of Cambridge, Cavendish Laboratory |
| Area of training | Transport Properties of Pressurised CeGe |
| Year | **2003.** |
| Place | Grenoble, France |
| Institution | University of Joseph Fourier |
| Area of training | Magnetostriction of Rare Earth Hexaboride |
| Year | **2001.** |
| Place | Grenoble, France |
| Institution | C.N.R.S. - Lab. Magnetisme Louis Néel |
| Area of training | Magnetostriction of Rare Earth Hexaboride |
| Year | **1999. - 2000.** |
| Place | Grenoble, France |

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| Institution | C.N.R.S. - Lab. Magnetisme Louis Néel |
| Area of training | Producing a magnetostriction device |
| Year | **1996.** |
| Place | Frankfurt am M., Germany |
| Institution | University of J.W. Goethe, Physikalishes Institut |
| Area of training | Ultrasound Characterization of Electric Properties of Heavy Fermions |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Native language | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English 5 (excellent) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | French 2 (sufficient) |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | • *Physics Education I, II i III*, Graduate programme Master of Education in Physics at University of Split, Faculty of Science, Department of Physics, 2015 – present.<br>• *Introduction to statistical physics (Statistical physics I)*, Undergraduate programme Batchelor in physics at University of Split, Faculty of Science, 2017– present.<br>• *Experimental Methods of Physics in Biophysics*, Ph.D. study of Biophysics at the Faculty of Science, University of Split, 2019 – present (a part of course).<br>• *Research-based physics education strategies,* Postgraduate University Study Programme in "Education Research in Natural and Technical Sciences", University of Split, Faculty of Science 2020 – present.<br>• *Selected Chapters in Methods of Teaching Physics, Postgraduate programme "Physics in Education" at University of Sarajevo, (2014 – present).*<br>• *Fundamental Concepts in Physics, Undergraduate programme Batchelor in physics at University of Split, Faculty of Science, Department of Physics (2013 – 2015).*<br>• *Physics 1, Graduate program in Conservation and Restoration at the Arts Academy, University of Split, 2011 – 2013.* |
| Authorship of university textbooks from the field of the course | |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | • J. Car, D. Blažeka, T. Bajan, L. Krce, I. Aviani, N. Krstulović, *A quantitative analysis of colloidal solution of metal nanoparticles produced by laser ablation in liquids*, Applied Physics A, 127, 838 (2021), https://doi.org/10.1007/s00339-021-04966-z<br>• D. Crnčević, L. Krce, L. Mastelić, A. Maravić, B. Soldo, I. Aviani, I. Primožič, R. Odžak, M. Šprung,*The mode of antibacterial action of quaternary N-benzylimidazole salts against emerging opportunistic pathogens,* Bioorganic Chemistry, **112**, 104938 (2021), https://doi.org/10.1016/j.bioorg.2021.104938<br>• L. Krce, M. Šprung, T. Rončević, A. Maravić, V. Čikeš Čulić, D. Blažeka, N. Krstulović and I. Aviani, *Probing the Mode of Antibacterial Action of Silver Nanoparticles Synthesized by Laser Ablation in Water: What Fluorescence and AFM Data Tell Us,* Nanomaterials **10 (6)**, 1040 (2020), https://doi.org/10.3390/nano10061040 |

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| | • L. Krce, M. Šprung, A. Maravić, P. Umek, K. Salamon, N. Krstulović and I. Aviani, *Bacteria Exposed to Silver Nanoparticles Synthesized by Laser Ablation in Water: Modelling E. coli Growth and Inactivation,* Materials **13 (3)**, 653 (2020), https://doi.org/10.3390/ma13030653<br>• L. Krce, M. Šprung, A. Maravić, I. Aviani, *A simple interaction-based E. coli growth model,* Physical Biology **16 (6)**, 066005 (2019), https://doi.org/10.1088/1478-3975/ab3d51 |
| Professional and research papers<br>In methodology and quality of teaching published in the last five years (**max 5 references**) | • N. Erceg, L. Jelovica, Z. Hrepić, V. Mešić, M. Karuza, I. Aviani, *University students' conceptual understanding of microscopic models of electrical and thermal conduction in solids,* Eur. J. Phys. **42**, 045702 (2021), https://doi.org/10.1088/1361-6404/abf5eb<br>• D.S. Glamočić, V. Mešić, K. Neumann, A. Sušac, W.J. Boone, I. Aviani, E. Hasović, N. Erceg, R. Repnik, V. Grubelnik *Maintaining item banks with the Rasch model: An example from wave optics,* Phys. Rev. Phys. Educ. Res. **17**, 010115 (2021), https://doi.org/10.1103/PhysRevPhysEducRes.17.010105<br>• N. Erceg, I. Aviani, M. Karuza, K. Grlaš, V. Mešić, *Development of the kinetic molecular theory of liquids concept inventory: Preliminary results on university students' misconceptions*, Eur. J. Phys. 40, 025704 (2019). https://doi.org/10.1088/1361-6404/aaff36<br>• V Mešić, K. Neumann, I. Aviani, E. Hasović, W. J. Boone, N. Erceg, V. Grubelnik, A. Sušac, Dž. Salibašić Glamočić, M. Karuza, A. Vidak, A. Alihodžić and R. Repnik, *Measuring students' conceptual understanding of wave optics: A Rasch modeling approach*, Phys Rev. Phys. Educ. Res. 15, 010115 (2019). https://doi.org/10.1103/PhysRevPhysEducRes.15.010115<br>• N. Erceg, I. Aviani, V. Mešić, M. Glunčić, G. Žauhar, *Development of the kinetic molecular theory of gases concept inventory: Preliminary results on university students' misconceptions*, Phys. Rev. Phys. Educ. Res. 12, 020139 (2016). https://doi.org/10.1103/PhysRevPhysEducRes.12.020139 |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | • 2020. – 2024. *Laser synthesis of nanoparticles,* HrZZ Project: IP-2019-04-6418, principal investigator Nikša Krstulović.<br>• 2020. – 2023. *Engineering reservoirs and optimizing response function measurements in quantum simulators and computers,* Croatian-American NSF project, No: 2/2019, principal investigator Ivica Aviani.<br>• 2020. – 2022. *Research on students' conceptual understanding of microscopic models in thermodynamics and development of modern methodical tools*, University of Rijeka project, principal investigator Nataša Erceg.<br>• 2019 – 2022 *Development of Physics Studies with the Application of The Croatian Qualifications Framework (CROQF)*, The European Social Fund (ESF) project.<br>• 2018 - 2021 I*nternationalization of Graduate Study Programs at The Faculty of Science in Split*, ESF project. |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Through teacher training programs before the Education and Teacher Training Agency, at district and state professional conventions for physics teachers (over 60 conventions). |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Award from the University of Split, Faculty of Science, for outstanding scientific research in 2019. |

| **Title, name and last name** | **Full professor Mladen Boban, M.D., Ph.D.** |
|---|---|
| The course he/she teaches in the proposed study programme | Pharmacology |
| GENERAL INFORMATION ON COURSE TEACHER | |
| E-mail address | mladen.boban@mefst.hr |
| Year of birth | 1964 |
| Scientist ID | 207836 |
| CROSBI profile ID | 15610 |
| Research or art rank, and date of last rank appointment | Scientific adviser, 2005. |
| Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment | Full professor tenure, July 15th, 2010. |
| Area and field of election into research or art rank | Biomedicine and health, basic medical sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution where employed | University of Split School of Medicine |
| Date of employment | 1997. |
| Name of position (professor, researcher, associate teacher, etc.) | Professor |
| Field of research | Pharmacology |
| Function | Head of the Department of Basic and Clinical Pharmacology |
| INFORMATION ON EDUCATION – Highest degree earned | |
| Degree | Ph.D. |
| Institution | University of Zagreb, School of Medicine |
| Place | Zagreb |
| Date | April 21st, 1995. |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1989-1992 |
| Place | Milwaukee, USA |
| Institution | The Medical College of Wisconsin |
| Field of training | Pharmacology and physiology of cardiovascular system |
| 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) | Principal teacher of several courses in the field of pharmacology for students of medicine, pharmacy, dental medicine, health studies, at undergraduate, graduate and postgraduate level |
| Authorship of university/faculty textbooks in the field of the course | Author and translator of several chapters in pharmacology textbooks |
| Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most) | 1. Boban, N., Tonkić, M., Grga, M., Milat, A.M., Mudnić, I., Boban, M. Antimicrobial activity of wine in relation to bacterial resistance to medicinal antibiotics<br>(2021) Oeno One, 55 (1), pp. 45-48.<br><br>2. Radman, S., Raić, S., Bućan, I., Pribisalić, A., Dunatov, J., Mudnić, I., Boban, M., Pellay, F.X., Kolčić, I., Polašek, O. Searching for carbonylome biomarkers of aging - Development and validation of |

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| | the proteomic method for quantification of carbonylated protein in human plasma<br>(2020) Croatian Medical Journal, 61 (2), pp. 119-125.<br><br>3.Režić-Mužinić, N., Mastelić, A., Benzon, B., Markotić, A., Mudnić, I., Grković, I., Grga, M., Milat, A.M., Ključević, N., Boban, M. Expression of adhesion molecules on granulocytes and monocytes following myocardial infarction in rats drinking white wine<br>(2018) PLoS ONE, 13 (5), art. no. e0196842<br><br>4. Milat, A.M., Mudnić, I., Grković, I., Ključević, N., Grga, M., Jerčić, I., Jurić, D., Ivanković, D., Benzon, B., Boban, M. Effects of White Wine Consumption on Weight in Rats: Do Polyphenols Matter?<br>(2017) Oxidative Medicine and Cellular Longevity, 2017, art. no. 8315803<br><br>5.Boban, M., Stockley, C., Teissedre, P.-L., Restani, P., Fradera, U., Stein-Hammer, C., Ruf, J.-C.<br>Drinking pattern of wine and effects on human health: Why should we drink moderately and with meals?<br>(2016) Food and Function, 7 (7), pp. 2937-2942. |
| Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most) | |
| Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most) | Croatian Science Foundation, Principal Investigator, Project 8652 „BioWine“ 2014-2019, |
| 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?-pedagoške kompetencije? | Continuing education course *Skills of medical education and scientific work* at the University of Split School of Medicine |
| PRIZES AND AWARDS, STUDENT EVALUATION | |
| Prizes and awards for teaching and scholarly/artistic work | 2. Decoration: „Chevalier de l'Ordre du Merite Agricole“, Ministère de l'Agriculture, de l'Alimentation, de la Pêche, de la Ruralité et de l'Aménagement du territoire, The Republic of France, 2011.<br>3. National science award in the field of Biomedicine for year 2012. |
| Results of student evaluation taken in the last five years for the course that is comparable to the course described in the form (evaluation organizer, average grade, note on grading scale and course evaluated) | 4,5 |

| **Title, name and last name** | **Ascoc. Prof. Joško Božić, MD, PhD** |
|---|---|
| Title of the course at the proposed study programme | Pathophysiology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | josko.bozic@mefst.hr |
| Year of birth | 1985 |
| Scientist ID | 326460 |
| CROSBI profile ID | 30423 |
| Research rank and date of the last appointment | Senior research associate (22.01.2020.) |
| Research and teaching or teaching rank, and the date of the last appointment | Associate Professor (21.04.2020.) |
| Area and field of appointment into research rank | Biomedicine and Health<br>Clinical Medical Sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University of Split School of Medicine |
| Date of employment | 14.01.2011. |
| Job title (professor, researcher, associate teacher, etc.) | Associate Professor |
| Field of research | Pathophysiology |
| Position in the institution | Vice-Dean for Medical Studies in English<br>Deputy Head of the Department of Pathophysiology<br>Head of the Department of Diploma Thesis |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Medical Sciences (PhD) |
| Institution | University of Split School of Medicine |
| Place | Split |
| Date | 2016 |
| 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 – excellent (5) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | German – sufficient (2) |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Pathophysiology course leader (Dental Medicine Studies, Medical Studies in English) |
| Authorship of university textbooks from the field of the course | Tičinović Kurir T et al. Pathophysiology of endocrinopathies – chosen chapters. Split, Naklada Redak, 2013. (University textbook) - author of the chapter |
| Professional and research papers | 1. Borovac JA, Glavas D, Susilovic Grabovac Z, Supe Domic D, D'Amario D, Bozic J. Catestatin in Acutely Decompensated Heart |

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| published in the last five years from the field of the course **(max 5 references)** | Failure Patients: Insights from the CATSTAT-HF Study. J Clin Med. 2019;8(8). pii: E1132.<br>2. Borovac JA, Dogas Z, Supe-Domic D, Galic T, Bozic J. Catestatin serum levels are increased in male patients with obstructive sleep apnea. Sleep Breath. 2019;23(2):473-481.<br>3. Tadin Hadjina I, Zivkovic PM, Matetic A, Rusic D, Vilovic M, Bajo D, Puljiz Z, Tonkic A, Bozic J. Impaired neurocognitive and psychomotor performance in patients with inflammatory bowel disease. Sci Rep. 2019;9(1):13740. doi: 10.1038/s41598-019-50192-2.<br>4. Bozic J, Borovac JA, Galic T, Kurir TT, Supe-Domic D, Dogas Z. Adropin and Inflammation Biomarker Levels in Male Patients With Obstructive Sleep Apnea: A Link With Glucose Metabolism and Sleep Parameters. J Clin Sleep Med. 2018;14(7):1109-1118.<br>5. Vilovic M, Dogas Z, Ticinovic Kurir T, Borovac JA, Supe-Domic D, Vilovic T, Ivkovic N, Rusic D, Novak A, Bozic J. Bone metabolism parameters and inactive matrix Gla protein in patients with obstructive sleep apnea. Sleep. 2019 Oct 21. pii: zsz243. doi: 10.1093/sleep/zsz243. [Epub ahead of print]. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | / |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 2014 – present, scientific project "Translational research on neuroplasticity of breathing and effect of intermittent hypoxia in anesthesia and sleep", HRZZ (investigator)<br>2018.- present„ "Normative models of vascular biomarkers for improving cardiovascular risk stratification in primary and secondary prevention" HRZZ (investigator) |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Skills course of medical education and scientific work, University of Split School of Medicine, 2019. |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | 2011 - Award of the Faculty Council for outstanding achievement during the study, University of Split School of Medicine<br>2013 – Best poster presentation award at the 5th Croatian Diabetes Congress with international participation, Pula, Croatia<br>2014 - Award for best rated teacher according to student survey results (Dental medicine study)<br>2018 - Award for best rated teacher according to student survey results (Medical Studies in English)<br>2019 - Award for best rated teacher according to student survey results (Medical Studies in English) |

| **Title, name and last name** | **Assist. Prof. Anteo Bradarić Šlujo, MD, PhD** |
|---|---|
| Title of the course at the proposed study programme | Pathophysiology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | anteo.bradaric@gmail.com |
| Year of birth | 1963. |
| Scientist ID | 281640 |
| CROSBI profile ID | 23574 |
| Research rank and date of the last appointment | scientific associate; 2014 |
| Research and teaching or teaching rank, and the date of the last appointment | Assist. Prof. - 23.07.2014. |
| Area and field of appointment into research rank | biomedicine and health, clinical medical sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Hospital of Split; University of Split School of Medicine |
| Date of employment | 1995. |
| Job title (professor, researcher, associate teacher, etc.) | Cardiology specialist; assistant professor |
| Field of research | Cardiovascular diseases, Pathophysiology |
| Position in the institution | Executor |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Medical Sciences (PhD) |
| Institution | University of Zagreb School of Medicine |
| Place | Split |
| Date | 2012 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2009. |
| Place | Split |
| Institution | University Hospital of Split |
| Field of training | Interventional cardiology |
| 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 4/5 |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Elective classes in interventional cardiology and electrocardiograms Pathophysiology of the cardiovascular system |
| Authorship of university textbooks from the field of the course | Clinical pathophysiology - etiopathogenetic nodes 2013 (chapter author) |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Borovac JA, D'Amario D, Schwarz K, Bradarić A, Božić J, Glavaš D. The effect of P2Y12 inhibitor pretreatment vs. no pretreatment on major bleeding among patients with NSTE-ACS: an updated meta-analysis and meta- regression pooling 41,548 patients from 11 studies. Eur Heart J. Digital Experience: Oxford University Press, 2021.<br>2. Borovac JA, D'Amario D, Glavas D, Sušilović Grabovac Z, Šupe Domić D, Novak K, Bradarić A, Miličić D, Duplančić D, Božić J. The S2PLIT-UG score, a novel system identifying patients with a |

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| | high risk of all- cause mortality following acute decompensation of heart failure, correlates with levels of sST2, hs-cTnI and NT-proBNP. Eur J Heart Fail. 2020;22:27-28.<br>3. Borovac JA, Božić J. Sušilović Grabovac Z, Šupe Domić D, Tičinović Kurir T, Bradarić A, Živković PM, Vilović M, Novak K, Glavaš D. Catestatin serum levels are inversely associated with adverse structural and hemodynamic profile among patients with acutely decompensated heart failure: preliminary echocardiographic findings. Abstracts of the Heart Failure. 2019; pp. 112-113.<br>4. Giunio L, Lozo M, Bradarić A, Zanchi J, Giunio L. Coronary perforation in STEMI PCI simultaneously treated by pericardiocent esis and covered stent implantation. How to manage coronary perforation Part 2. EuroPCR. 2018.<br>5. Giunio L, Lozo M, Bradarić A, Zanchi J, Giunio L. When less is more. How to manage left stem dissections. EuroPCR. 2018. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | / |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | / |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | As part of the acquisition of the scientific - teaching title of assistant professor, passed the Skills course of medical education and scientific work, University of Split School of Medicine, 2014. |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | / |

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| **Title, name and last name of the course leader** | **Asst. Prof Esma Čečuk-Jeličić, PhD** |
| **Title of the course at the proposed study programme** | Introduction to Laboratory Medicine, Clinical skills II, Basics of Haematology and Coagulation, Basics of Transfusion Medicine and Transplantation, Laboratory Immunology and Immunochemistry, Immunogenetics |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | esma.cecuk@gmail.com |
| Year of birth | 1958. |
| Scientist ID | 159124 |
| CROSBI profile ID | 13295 |
| Research rank and date of the last appointment | Research associate, July 2017 |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant Professor, 21.12.2017. |
| Area and field of appointment into research rank | Natural sciences, Biology |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Hospital Centre Split |
| Date of employment | 02.11.2010. |
| Job title (professor, researcher, associate teacher, etc.) | Head of Tissue Typing Laboratory, Division of Trasfusion Medicine |
| Field of research | Molecular biology |
| Position in the institution | Head of Tissue Typing Laboratory, Division of Trasfusion Medicine |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Department of Health Studies |
| Date of employment | 29.01.2018. |
| Job title (professor, researcher, associate teacher, etc.) | Assistant Professor |
| Field of research | Medical Laboratory Diagnostics |
| Position in the institution | Head of Department for Medical Laboratory Diagnostics |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Science (PhD) |
| Institution | Faculty of Science, Department of Biology, University of Zagreb |
| Place | Zagreb |
| Date | 15.01.2008. |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1995. |
| Place | Geneve, Switzerland |
| Institution | Geneve University Hospital |
| Field of training | Molecular biology |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Mother tongue | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English (4) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | German (2) |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it | Course teacher of the above courses, Assistant of Head of Department for Medical Laboratory Diagnostics from 2016. - 2020.; Head of Department for Medical Laboratory Diagnostics from 2020. |

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| is/was held, and level of study programme) | |
| Authorship of university textbooks from the field of the course | **Čečuk-Jeličić**, Esma; Kerhin-Brkljačić, Vesna. Odabir davatelja u transplantacijskoj medicini // Racionalna dijagnostika nasljednih i prirođenih bolesti / Barić, Ivo ; Stavljenić Rukavina, Ana (ur.).Zagreb : Medicinska naklada, 2005. |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | Šošo, Daniela; Aljinović, Jure; Lovrić Kojundžić, Sanja; Marinović, Ivanka; **Čečuk Jeličić, Esma**; Marasović Krstulović, Daniela Ultrasound-Verified Peripheral Arthritis in Patients with HLA-B*35 Positive Spondyloarthritis *// Life,* **11** (2021), 6; 11060524, 10 doi:10.3390/life11060524<br><br>Šošo, D., Aljinović, J., Marinović, I. , Kojundžić S.L., **Čečuk-Jeličić E**., Marasović-Krstulović D. The occurrence of sacroiliitis in HLA-B*35-positive patients with undifferentiated spondyloarthritis. A cross sectional MRI study. Clin Rheumatol (2020). https://doi.org/10.1007/s10067-020-04999-4<br><br>Jerončić, A; Nonković, D; Vrbatović, A; Hrabar, J; Bušelić, I; Martinez-Sernandez, V; Lojo Rocamonde, S; Ubeira, F; Jaman, S; **Čečuk Jeličić, E**. Anisakis Sensitization in the Croatian fish processing workers: Behavioral instead of occupational risk factors? // PLoS Neglected Tropical Diseases, 14 (2020), 1:1-21 (IF 4.718, Parasitology Q1)<br><br>https://doi:10.1371/journal.pntd.0008038<br>Marinović I, Martinović Kaliterna D, Smoljanović M, Radić M, **Cecuk-Jelicic E**, Bogdanić D, Pivalica D. The prevalence of rheumatoid arthritis in Split- Dalmatia County in southern Croatia is 0.24%. Joint bone spine 2016; 83(4): 457-458<br><br>Kaštelan M, Prpic Massari L, Brajac I, Peternel S, **Čečuk-Jeličić E**, Grubić Z, Kaštelan A. Učestalost haplotipskih sveza HLA-DRB1-DQA1-DQB1 u psorijatičara s pozitivnom i negativnom obiteljskom anamnezom psorijaze. Medicina Fluminensis 2015; 51(2):283-288. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | Anisakis spp: genomic epidemiology (IP-11-2013) (Head: Prof.. Ivona Mladineo)<br><br>„HLA class I and II allele frequency in central Dalmatia population"– Institutional project of University Department of Health Studies (Head: Asst. Prof. Esma Čečuk-Jeličić) |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | "Medical Education Course", University of Split, School of Medicine<br>"Basic course of communication skills" , University Department of Health Studies |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

| **Title, name and last name** | **Assistant professor Ana Ćurković** |
|---|---|
| Title of the course at the proposed study programme | Sociology of Health<br>Health Care Ethics |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | ana.curkovic@ozs.unist.hr |
| Year of birth | 1988. |
| Scientist ID | 336731 |
| CROSBI profile ID | 31752 |
| Research rank and date of the last appointment | / |
| Research and teaching or teaching rank, and the date of the last appointment | assistant professor, 24.11.2020. |
| Area and field of appointment into research rank | Area of biomedicine and health, field of public health and health care, branch of social medicine |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University of Split, University Department of Health Studies |
| Date of employment | 1.4.20212. |
| Job title (professor, researcher, associate teacher, etc.) | assistant professor |
| Field of research | Social medicine |
| Position in the institution | assistant professor |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | Split School of Medicine |
| Place | Split |
| Date | 29.10.2018. |
| 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 (title of course, study programme where it is/was held, and level of study programme) | Previous participation in courses as a teaching assistant and postdoctoral researcher |
| Authorship of university textbooks from the field of the course | / |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | Lukežić, Marina; Ćurković, Ana; Kolčić, Ivana; Polašek, Ozren. Socioeconomic status and psychological distress do not predict mortality risk in the island population of Vis, Croatia // Journal of Global Health Economics and Policy, 1 (2021), 1; 2021016, 7 doi:10.52872/001c.29662<br><br>Rehberg, Joshua; Stipčić, Ana; Ćorić, Tanja; Kolčić, Ivana; Polašek, Ozren. Mortality patterns in Southern Adriatic islands of Croatia: a |

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| | registry-based study // Croatian Medical Journal, 59 (2018), 3; 118-123 doi:10.3325/cmj.2018.59.118<br><br>Stipčić, Ana. Važnost socioekonomskih pokazatelja u određivanju zdravlja i zdravstvenih rizika u južnoj Hrvatskoj, 2018., doktorska disertacija, Medicinski fakultet Split, Split.<br><br>Šolić, Ivana; Stipčić, Ana; Pavličević, Ivančica; Marušić, Ana<br>Transparency and public accessibility of clinical trial information in Croatia: how it affects patient participation in clinical trials // Biochemia Medica: The journal of The Croatian Society of Medical Biochemistry and Laboratory Medicine, 27 (2017), 2; 259-269 doi:10.11613/BM.2017.027. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | Antičević, Vesna; Sindik, Joško; Klarin, Mira; Đogaš, Varja; Stipčić, Ana; Kardum, Goran; Barač, Ivana; Zoranić, Sanja; Perković Kovačević, Marina<br>Effects of social skills training among freshman undergraduate nursing students: a randomized controlled trial // Medica Jadertina, 48 (2018), 1-2; 23-32 |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | / |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Professional development: Development and improvement of pedagogical competencies of university teachers.<br>University of Split, Faculty of Philosophy, CIRCO - Center for Lifelong Research and Development Education (2014) |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Award for the best poster presentation in the category of young researchers, HandsOn: Biobanks 2014, Helsinki, Finland. |

| **Title, name and last name** | **Full Professor (tenure) Irena Drmić Hofman, PhD, MSc** |
|---|---|
| Title of the course at the proposed study programme | Biochemistry<br>Introduction to laboratory medicine<br>Biochemistry II<br>Molecular Biology Techniques in Medicine |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | idhofman@ozs.unist.hr |
| Personal web page | https://www.bib.irb.hr/pregled/profil/25009 |
| Year of birth | 1965 |
| Scientist ID | 219413 |
| CROSBI profile ID | 25009 |
| Research rank and date of the last appointment | Scientific Advisor with Tenure, July 26, 2019 |
| Research and teaching or teaching rank, and the date of the last appointment | Full Professor with Tenure, December 18, 2019 |
| Area and field of appointment into research rank | Biomedicine and Health, Basic Medical Sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University of Split School of Medicine |
| Date of employment | 1 April 1995 |
| Job title (professor, researcher, associate teacher, etc.) | Full Professor with Tenure |
| Field of research | Biochemistry and Molecular Biology |
| Position in the institution | Head of Department of Chemistry and Biochemistry |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Department of Health Studies, University of Split |
| Date of employment | 20 April 2021 |
| Job title (professor, researcher, associate teacher, etc.) | Full Professor with Tenure |
| Field of research | Biochemistry and Laboratory Diagnostics |
| Position in the institution | Assistant to the Head for Science and International Cooperation |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | University of School of Zagreb School of Medicine |
| Place | Zagreb, Croatia |
| Date | 27 October 2003 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1995 |
| Place | Verona, Italy |
| Institution | Institute of Biology and Genetics, School of Medicine |
| Field of training | Molecular genetics and Population genetics |
| Year | 1998, 1999, 2000, 2001 |
| Place | Bielefeld, Germany |
| Institution | Institute for Cell Culture Technology, University of Bielefeld |
| Field of training | Glycomics |
| Year | 2004-2005 |
| Place | Münster, Germany |
| Institution | **University of Münster, Institute for Medical Physics and Biophysics** |
| Field of training | Tumor Glycomics (DAAD Fellowship) |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |

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| Mother tongue | Croatian |
| English | 5 |
| Italian | 4 |
| German | 2 |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | 1. Nutrition and Health (elective course, Study of Medicine)<br>2. Biochemistry (University of Split Department of Health Studies, USDHS, undergraduate study)<br>3. Biochemistry 2 (USDHS, undergraduate study)<br>4. Molecular Biology Techniques in Medicine (USDHS, undergraduate study)<br>5. Molecular Methods in Tumor Diagnostics, Tumor Glycomics, Molecular Research Methods in Glycomedicine (elective courses, University of Split School of Medicine, Postgraduate study Tumor Biology)<br>6. Diagnostic of Genetic and Chromosomal Disorders, (elective course, University of Split School of Medicine, Postgraduate study TRIBE) |
| Authorship of university textbooks from the field of the course | |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1.Oršolić I, Bursać S, Jurada D, Drmić Hofman I, Dembić Z, Bartek J, Mihalek I, Volarević S. Cancer-associated mutations in the ribosomal protein L5 gene dysregulate the HDM2/p53-mediated ribosome biogenesis checkpoint. *Oncogene*. 2020; 39(17):3443-57.<br>2. Galusic D, Lucijanic M, Livun A, Radman M, Blaslov V, Vicelic Cutura L, Petric M, Miljak A, Lucijanic J, Drmic Hofman I, Kusec R. Higher AURKA and PLK1 expression are associated with inferior overall survival in patients with myelofibrosis. *Blood Cells Mol Dis*. 2020:102396.<br>3. Galusic D, Lucijanic M, Livun A, Radman M, Lucijanic J, Drmic Hofman I, Kusec R. CDC25c expression in patients with myelofibrosis is associated with stronger myeloproliferation and shorter overall survival. *Wien Klin Wochenschr*. 2020. doi: 10.1007/s00508-020-01738-2.<br>4.Šupe-Domić D, Milas G, Stanišić L, Drmić Hofman I, Martinović Klarić I. Reference intervals for six salivary cortisol measures based on the Croatian Late Adolescence Stress Study (CLASS). *Biochem Med* (Zagreb). 2018;28(1):010902.<br>5.Milas G, Šupe-Domić D, Drmić Hofman I, Rumora L, Martinović Klarić I. Weather conditions: a neglected factor in human salivary cortisol research? *Int J Biometeorol* 2018; 62(2):165-75. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | 1. Drmić Hofman I. Metode molekularne genetike u leukemijama i limfomima. U: genetičko informiranje u praksi. Čulić V, Pavelić J, Radman M (Ur.). Medicinska naklada, Zagreb, 2016. |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 1. Regulation of receptor-mediated mitophagy in erythroid lineage cells - MitoReg. PI: Assoc. Prof. Ivana Novak Nakir, Financed by Croatian Science Foundation (IP-2020-02, duration 2021-2025) |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | 1. IUBMB International Workshop on Biochemistry Education, University of Split School of Medicine, Croatia, 2011.<br>2. FEBS Workshop on Education in Biochemistry and Molecular Biology, Opatija, Croatia, 2010. |

| PRIZES AND AWARDS | |
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| Prizes and awards for teaching and research | |

| **Title, name and last name** | **Asst. Prof. Varja Đogaš, MD, PhD** |
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| Title of the course at the proposed study programme | Health Care Psychology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | varjagd@gmail.com |
| Year of birth | 1964. |
| Scientist ID | 346596 |
| CROSBI profile ID | 32592 |
| Research rank and date of the last appointment | Assistant Professor, August 1, 2017 |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant Professor |
| Area and field of appointment into research rank | Biomedicine and health, Basic medical sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | School of Medicine University of Split<br>Faculty of Humanities and Social Sciences University of Split |
| Date of employment | February 1, 2009 |
| Job title (professor, researcher, associate teacher, etc.) | Assistant Professor |
| Field of research | Psychological Medicine |
| Position in the institution | Head of the department of Psychological Medicine |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | School of Medicine University of Split |
| Place | Split |
| Date | February 23, 2015 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2021 |
| Place | Zagreb |
| Institution | Institute of Group Analysis, |
| Field of training | Group analysis |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2022 |
| Place | Zagreb |
| Institution | Croatian Society of Psychoanalytic Psychotherapy |
| Field of training | Psychoanalytic Psychotherapy |
| 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) | Deutch - 2 |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Undergraduate education:<br>Psychological medicine I and Psychological medicine II (Medicine, Medical Studies in English)<br>Psychological medicine (Dental Medicine) |

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| | Doctoral education:<br>Communication Skills |
| Authorship of university textbooks from the field of the course | |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Žuljević, Marija Franka; Jeličić, Karlo; Viđak, Marin; **Đogaš, Varja**; Buljan, Ivan<br>Impact of the first COVID-19 lockdown on study satisfaction and burnout in medical students in Split, Croatia: a cross-sectional presurvey and postsurvey // *BMJ Open,* **11** (2021), 6; e049590, 11 doi:10.1136/bmjopen-2021-049590<br><br>2. Antičević, Vesna; Sindik, Joško; Klarin, Mira; **Đogaš, Varja**; Stipčić, Ana; Kardum, Goran; Barać, Ivana; Zoranić, Sanja; Perković Kovačević, Marina<br>Effects of social skills training among freshman undergraduate nursing students: a randomized controlled trial // *Medica Jadertina,* **48** (2018), 1-2; 23-32<br><br>3. Antičević, Vesna; Sindik, Joško; Klarin, Mira; **Đogaš, Varja**; Stipčić, Ana; Kardum, Goran; Barać, Ivana; Zoranić, Sanja; Perković Kovačević, Marina<br>Effects of social skills training among freshman undergraduate nursing students: a randomized controlled trial // *Medica Jadertina,* **48** (2018), 1-2; 23-32<br><br>4. **Đogaš, Varja**; Donev, Doncho M.; Kukolja-Taradi, Sunčana; Đogaš, Zoran; Ilakovac, Vesna; Novak, Anita; Jerončić, Ana<br>No difference in the intention to engage others in academic transgression among medical students from neighboring countries: a cross-national study on medical students from Bosnia and Herzegovina, Croatia, and Macedonia // *Croatian medical journal,* **57** (2016), 4; 381-391 doi:10.3325/cmj.2016.57.381 |
| Professional and research papers<br>In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | Internationalization of study programs at all levels at the Faculty of Medicine in Split - Operational Program "Effective Human Resources (2014-2020) – associate<br>Project MEDICINSKA +; – associate |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

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| **Title, name and last name** | **prof. Merica Glavina Durdov, full professor** |
| **Title of the course at the proposed study programme** | Pathology<br>Cytology and Histology<br>Laboratory histopathological techniques |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | merigdst@yahoo.co.uk |
| Personal web page | no |
| Year of birth | 1960. |
| Scientist ID | 207682 |
| CROSBI profile ID | 15548 |
| Research rank and date of the last appointment | scientific consultant, 2017. |
| Research and teaching or teaching rank, and the date of the last appointment | full professor, 2017. |
| Area and field of appointment into research rank | Pathology |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University hospital Split and School of Medicine |
| Date of employment | 1988 in the Hospital and 2001 in the School of Medicine |
| Job title (professor, researcher, associate teacher, etc.) | professor |
| Field of research | Pathology |
| Position in the institution | professor |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD, 2000 |
| Institution | Medical School University of Zagreb |
| Place | Zagreb |
| Date | 2000 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2000 |
| Place | Ljubljana |
| Institution | Medical school University of Ljubljana |
| Field of training | Nephropathology |
| 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 (title of course, study programme where it is/was held, and level of study programme) | Course teacher of Patology<br>undergraduate study of Nursing, University of Dubrovnik<br>graduate study of Medicine, University of Mostar, BH |
| Authorship of university textbooks from the field of the course | Pathology, Medicinska naknada, Zagreb |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | Simundza I, Krnic D, Juricic J, Benzon B, Simundza R, Stanicic IM, Capkun V, Vukojevic K, Glavina Durdov M. Expression of PD-L1 is associated with inflammatory microenvironment in surgical specimens of non-small cell lung cancer J Pers Med 2021;11:767. Mizdrak M, Filipović N, Vukojević K, Čapkun V, Mizdrak I, Durdov MG. Prognostic value of connective tissue growth factor and c-Myb expression in IgA nephropathy and Henoch-Schönlein purpura - a |

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| | pilot immunohistochemical study. Acta Histochem. 2020;122:151479.<br>Piljić Burazer M, Mladinov S, Matana A, Kuret S, Bezić J, Glavina Durdov M. Low ERCC1 expression is a good predictive marker in lung adenocarcinoma patients receiving chemotherapy based on platinum in all TNM stages - a single-center study. Diagnostic Pathology 2019;105-8.<br>Mizdrak M, Vukojević K, Filipović N, Čapkun V, Benzon B, Glavina Durdov M. Expression of DENDRIN in several glomerular diseases and correlation to pathological parameters and renal failure - preliminary study. Diagnostic Pathology 2018; 13: 90. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | Benzon B, Vukojević K, Filipović N, Tomić S, Glavina Durdov M. Factors that determine completion rates of biomedical students in a PhD programme. Education sciences 2020; 10:336-8. |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | I am a researcher on two scientific projects of the Croatian Science Foundation:<br><br>"Characterization of candidate genes for congenital anomalies of the kidney and urotract (CAKUT) during development in mice and humans" (prof. Katarina Vukojević)<br>„Genotype-phenotype correlations in Alport syndrome and thin glomerular basement membrane nephropathy (prof. Danica Galešić Ljubanović) |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | during my longterm practical work with the students and in the methodological courses |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

| **Title, name and last name** | **Professor Ivica Grković, MD, PhD, full professor** |
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| Title of the course at the proposed study programme | Anatomy |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | Ivica.grkovic@mefst.hr |
| Year of birth | 1964 |
| Scientist ID | 173423 |
| CROSBI profile ID | 13898 |
| Research rank and date of the last appointment | Scientific advisor, Biomedicine and Health – Preclinical medicine - Anatomy, since 2009 |
| Research and teaching or teaching rank, and the date of the last appointment | Full tenured professor of Anatomy, since 2014 |
| Area and field of appointment into research rank | Biomedicine and Health:<br>- Basic Medical Sciences<br>- Anatomz |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University of Split School of Medicine |
| Date of employment | September 2004 |
| Job title (professor, researcher, associate teacher, etc.) | Full tenured professor |
| Field of research | Anatomy |
| Position in the institution | Head, Department of anatomy |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | University of Melbourne, Department of anatomy and neuroscience |
| Place | Melbourne, Australia |
| Date | 1997. |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1992-2004 |
| Place | Melbourne, Australia |
| Institution | The University of Melbourne |
| Field of training | Anatomy, neurobiology of the autonomic nervous system |
| 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 – excellent (5) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | Italian – sufficient (2) |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | 'Lecturer' (1998-2002) i 'Senior Lecturer' (2003-2004); Anatomy and neuroscience, The University of Melbourne |
| Authorship of university textbooks from the field of the course | An@tomedia (A New Approach to Medical Education: Developments in Anatomy)<br>Norman Eizenberg, Christopher Briggs, Priscilla Barker, Ivica Grkovic<br>**Mc Graw Hill Education,** http://anatomediaonline.com/ |

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| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Ključević N, Boban D, Milat AM, Jurić D, Mudnić I, Boban M, **Grković I**. (2019) Expression of Leukocytes Following Myocardial Infarction in Rats is Modulated by Moderate White Wine Consumption. Nutrients. 11(8). pii: E1890. doi: 10.3390/nu11081890.<br><br>2. Ljubkovic M, Gressette M, Bulat C, Cavar M, Bakovic D, Fabijanic D, **Grkovic I**, Lemaire C, Marinovic J. (2019) Disturbed Fatty Acid Oxidation, Endoplasmic Reticulum Stress and Apoptosis in Left Ventricle of Patients with Type 2 Diabetes Mellitus. Diabetes. 68(10):1924-33. doi: 10.2337/db19-0423.<br><br>3. Režić-Mužinić N, Mastelić A, Benzon B, Markotić A, Mudnić I, **Grković I**, Grga M, Milat AM, Ključević N, Boban M. (2018) Expression of adhesion molecules on granulocytes and monocytes following myocardial infarction in rats drinking white wine. PLoS One.13(5) e0196842. doi: 10.1371/journal.pone.0196842.<br><br>4. Agnic I, Filipovic N, Vukojevic K, Saraga-Babic M, **Grkovic I**.(2018) Isoflurane post-conditioning influences myocardial infarct healing in rats. Biotech Histochem. 93(5):354-63. doi: 10.1080/10520295.2018.1443507.<br><br>5. Ključević N, Milat AM, Grga M, Mudnić I, Boban M, **Grković I**. (2017) White Wine Consumption Influences Inflammatory Phase of Repair After Myocardial Infarction in Rats. J Cardiovasc Pharmacol. 70(5):293-99. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | 1. Sapunar D, Marušić M, Puljak L, **Grković I**, Malički M, Marušić A, Čivljak M, Tanjić Ž. (2018) The Medical School of the Catholic University of Croatia: Principles, Goals, Standards and Organization. Acta Med Acad. 47(1):61-75.<br><br>2. Sapunar D, **Grković I**, Lukšić D, Marušić M. (2016) Management of teaching processes using the Share point platform: A case study from the University of Split School of Medicine. *Acta Med Acad.* 45(1):34-8.<br><br>3. Sapunar D, **Grković I**, Lukšić D, Marušić M. (2016) The business process management software for successful quality management and organization: A case study from the University of Split School of Medicine. *Acta Med Acad.* 45(1):26-33. |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | **1. Croatian Research Foundation: "Biological effects of wine: the influence of vinification technology, dealcoholisation and aging of wine" 2015.-2019.- research fellow** |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Courses on Anatomy (since 1989) and Neuroscience (since 1993), from instructor/tutor to full tenured professor. |
| PRIZES AND AWARDS | |

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| Prizes and awards for teaching and research | 2015.: Best teacher award in Dental medicine course in 2014/15.<br>2019.: Best teacher award in Dental medicine course in 2018/19. |

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| Title, name and last name | **Assistant professor Iris Jerončić Tomić, MD PhD** |
| Title of the course at the proposed study programme | Hygiene and epidemiology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | iris.jeroncic@mefst.hr |
| Year of birth | 1966. |
| Scientist ID | 345775 |
| CROSBI profile ID | 32487 |
| Research rank and date of the last appointment | Research associate |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant professor, 1st September 2016 |
| Area and field of appointment into research rank | Public health and health care, Social medicine |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University of Split School of Medicine |
| Date of employment | May 2009 |
| Job title (professor, researcher, associate teacher, etc.) | Assistant professor |
| Field of research | Public health and health care, Social medicine |
| Position in the institution | Head of the Department of Public Health |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | University of Split School of Medicine |
| Place | Split |
| Date | 15th July 2014 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2016 |
| Place | Zagreb |
| Institution | Faculty of Medicine in Zagreb |
| Field of training | Palliative care |
| 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 (title of course, study programme where it is/was held, and level of study programme) | Lecturer in Public Health (Social Medicine, Gerontology, Social Media Medicine) at the University of Split School of Medicine |
| Authorship of university textbooks from the field of the course | 1. Mulić, R, Jerončić, I. Komunikacija u javnome zdravstvu // Javno zdravstvo / Puntarić, Dinko; Ropac, Darko ; Jurčev-Savičević, Anamarija (ur.). Zagreb: Medicinska naklada, 2015. str. 518-534 |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Jerončić Tomić I, Mulić R. Ageism in the Age of Pandemic, Engleski // *In medias res,* 10(18)#5 2021 (2021), 2347-2364 doi:10.46640/imr.10.18.4<br>2. Jerončić I, Mudronja L, Mulić R. Current infectiosus risk in international maritime traffic // *5th IMSC Book of* |

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| | *Abstracts* / Split: Faculty of Maritime Studies Split, 2013. str. 41-41<br>3. Mulić R, Jerončić Tomić I. Supplying ships with safe drinking-water // *International maritime health,* 71 (2020), 2; 123-128 doi:10.5603/IMH.2020.0022<br>4. Mulić R, Russo A, Jerončić Tomić I. Study of Malaria Cases among Seafarers in Croatia and the Causes of Ineffective Chemoprophylaxis among them // *Pedagogika (Sofia),* 93 (2021), 6s; 121-131<br>5. Jerončić Tomić I, Pranić Sh, Mulić R, Polašek O. Usporedba pojavnosti hiperuricemije i gihta na otoku Korčuli i otoku Visu s gradom Splitom i njegovom okolicom // *Liječnički vjesnik : glasilo Hrvatskoga liječničkog zbora,* Vol.139 (2017), No.5-6; 144-149 |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | 1. Jerončić-Tomić I, Čerluka T, Vidan P, Mulić R. Stereotypes and health literacy in seafarers: Views of the students of medicine and maritime science on contraception. Int Marit Health. 2018;69(3):163-170.<br>2. Jerončić I, Mudronja L, Mulić R. Current Infectious Risks in International Maritime Traffic. Book Of Abstracts. 5th International Maritime Science Conference, Split, 2013;41.<br>3. Jerončić, I Nikolić J Mulić R. Maritime Medicine and Medicine for Seafarers // *Book of Proceedings, 6th IMSC 2014, International Maritime Science Conference* / Fakulteta za pomorstvo in promet, Portorož, 2014. str. 50-50<br>4. Mulić R, Jerončić Tomić I, Vukić L. What Does A Doctor of Medicine Do at The Faculty of Maritime Studies? // *Book of Proceedings, 8th International Maritime Science Conference* / Kotor, Montenegro: CIP - Nacionalna biblioteka Crne Gore, 2019. str. 459-462<br>5. **Jerončić Tomić I. Stigma – mitovi i predrasude depresivnog poremećaja – uloga videa kao medija u psihoedukaciji (Boli me – video za promociju mentalnog zdravlja)** In medias res: časopis filozofije medija, Vol. 6 No. 11, 2017. |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 1. "Internationalization of study programs at all levels at the Faculty of Medicine in Split"<br>2. "10,001 Dalmatians" of the Medical Faculty of the University of Split<br>3. Seroepidemiology, hereditary predisposition and infectious diseases in Croatia. |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Regular education and continuous lifelong training.<br>Medical Education Course, University of Split, 2014 |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

| **Title, name and last name** | **Associate Professor Anamarija Jurčev Savičević, MD** |
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| Title of the course at the proposed study programme | Hygiene and Epidemiology<br>Public Health |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | anamarijajs@gmail.com |
| Year of birth | 1968 |
| Scientist ID | 336981 |
| CROSBI profile ID | 31630 |
| Research rank and date of the last appointment | Senior Research Fellow<br>July 10, 2019 |
| Research and teaching or teaching rank, and the date of the last appointment | Associate Professor<br>September 19, 2019 |
| Area and field of appointment into research rank | Biomedicine and health<br>Public health and health care<br>Epidemiology |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | 1. Teaching Institute for Public Health of the Split-Dalmatia County<br>2. University Department of Health Studies, University of Split |
| Date of employment | 1. December 12, 1997<br>2. April 1, 2021 |
| Job title (professor, researcher, associate teacher, etc.) | 1. Epidemiology specialist<br>2. Associate Professor |
| Field of research | 1. Epidemiology<br>2. Courses from the Department of Preventive Medicine |
| Position in the institution | 1. Head of the Unit for Scientific Research, Head of the Department for the Control of Tuberculosis and Other Respiratory Infections<br>2. Head of the Department of Preventive Medicine |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | School of Medicine University of Split |
| Place | Split |
| Date | 2012 |
| | |
| Degree | Specialist in Epidemiology |
| Institution | PHI |
| Place | Split |
| Date | 2002 |
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| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2021 |
| Place | Msida, Malta |
| Institution | Faculty of Education, University of Malta |
| Field of training | Applied Public Health |
| | |
| Year | 2021 |
| Place | Cadiz, Špain |
| Institution | Faculty of Education, University of Cadiz |
| Field of training | Applied Public Health |
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| Year | 2019 |

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| Place | Athens, Greece |
| Institution | Medical School National and Kapodistrian, University of Athens |
| Field of training | Epidemiology |
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| Year | 2018 |
| Place | Florence, Italy |
| Institution | School of Human Health Sciencies, Universita degli Studi di Firenze |
| Field of training | Epidemiology |
| | |
| Year | 2014 |
| Place | Izmir, Turkey |
| Institution | World Health Organization |
| Field of training | Epidemiology |
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| 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<br>Very Good |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | Italian<br>Good |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Travel Medicine- course leader<br>School of Medicine and School of Dental Medicine<br>Undergraduate<br><br>Numerous undergraduate courses: Medicine of work with health ecology, Hygiene, Epidemiology, Public health,<br>Health promotion, Law in medicine, Infection control and prevention, Dietetics, Medical Humanities, How to live a hundred years, Risk communication |
| Authorship of university textbooks from the field of the course | Jurčev Savičević A, Miše K. (eds). Tuberkuloza-stara dama u novom ruhu: Zagreb: Medicinska naklada, 2021.<br>Puntarić D, Ropac D, Jurčev Savičević A. (eds.). Javno zdravstvo. Zagreb: Medicinska naklada, 2015. |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. **Jurčev Savičević A**, Ninčević J, Veršić Š, Cuschieri S, Bandalović A, Turić A, Bećir B, Modrić T, Sekulić D. Performance of Professional Soccer Players before and after COVID-19 Infection; Observational Study with an Emphasis on Graduated Return to Play. Int J Environ Res Public Health. 2021;18(21):11688.<br>2. Šunda M Gilić B, Perić I, **Jurčev Savičević A**, Sekulić D. Evidencing the Influence of the COVID-19 Pandemic and Imposed Lockdown Measures on Fitness Status in Adolescents: A Preliminary Report . Healthcare (Basel). 2021;9(6):681.<br>3. Gilić B, Zenić N, Šeparović V, **Jurčev Savičević A**, Sekulić D. Evidencing the influence of pre-pandemic sports participation and substance misuse on physical activity during the COVID 19 lockdown: a prospective analysis among older adolescents. Int J Occup Med Environ Health. 2021;34:1-13.<br>4. Andres M, van der Werf MJ, Ködmön C, Albrecht S, Haas W, Fiebig L, Survey study group...**Jurcev Savicevic A**. Molecular and genomic typing for tuberculosis surveillance: A survey |

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| | study in 26 European countries. PLoS One. 2019;14(3):e0210080<br>5. Obradovic Salcin L, Miljanovic Damjanovic V, **Jurcev Savicevic** A, Ban D, Zenic N. Prospective Analysis of Prevalence, Trajectories of Change, and Correlates of Cannabis Misuse in Older Adolescents from Coastal Touristic Regions in Croatia. Int J Environ Res Public Health. 2019;16(16). pii: E2924 |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | / |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 1. *SEA-EU Alliance.* Impact of COVID-19 illness on professional soccer players (612468-EPP-1-2019-1-ES-EPPKA2-EUR-UNIV)<br>2. *SEA-EU Alliance.* Impact of COVID-19 pandemic on work content satisfaction, psychophysiological distress and sense of control and cohesiveness among public health workers involved in pandemic control (612468-EPP-1-2019-1-ES-EPPKA2-EUR-UNIV) |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Skills of medical education and scientific work<br>School of Medicine University of Split,<br>2012. |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | University of Split 2021.<br>4. Congress of Epidemiology with International Participation 2019.<br>Croatian Medical Association 2018. |

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| **Title, name and last name** | **Asst. Prof. Vanja Kaliterna, M.D., PhD, Clinical Microbiology Specialist** |
| Title of the course at the proposed study programme | Microbiology and parasitology<br>Introduction to laboratory medicine<br>Clinical Microbiology<br>Molecular Biology Techniques in Medicine |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | vanja.kaliterna@gmail.com |
| Year of birth | 15th September 1968 |
| Scientist ID | 300762 |
| CROSBI profile ID | 23993 |
| Research rank and date of the last appointment | Research Associate, 13th October 2015 |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant Professor, 2nd June 2016 |
| Area and field of appointment into research rank | Area Biomedicine and Health<br>Field Clinical medical sciences, Medical Microbiology |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | Teaching Public Health Institute of Split-Dalmatia County |
| Date of employment | 1. 12. 1997. |
| Job title (professor, researcher, associate teacher, etc.) | Head of Department for Molecular Diagnosis and Diagnosis of Genital Infections |
| Field of research | Medical Microbiology |
| Position in the institution | Head of the Department of Clinical Microbiology TPHI SDC |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Department of Health Studies, , University of Split |
| Date of employment | 1. 2. 2020. |
| Job title (professor, researcher, associate teacher, etc.) | Assistant Professor |
| Field of research | Medical Microbiology |
| Position in the institution | |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Science (PhD) |
| Institution | School of medicine, University of Split |
| Place | Split |
| Date | 24. 3. 2014. |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1998. |
| Place | Farmington, Connecticut, USA |
| Institution | University of Connecticut Health Center |
| Field of training | Molecular biology (University Postdoctoral Fellow in the Department of Pediatrics) |
| 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 (4-5) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | german (3) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | italian (3) |

| COMPETENCES FOR THE COURSE | |
|---|---|
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Course teacher: Microbiology and Parasitology and Clinical Microbiology |
| Authorship of university textbooks from the field of the course | 1. **Kaliterna V**. Bakterijska vaginoza. U: Zekan J, Šitum M, Karelović D, Marinović B, ur. Vulvologija. Zagreb: Medicinska naklada, 2020., str. 51-4.<br>2. **Kaliterna V**. Ortomiksovirusi (virusi Influence). U: Brooks GF, Carroll KC, Butel JS, Morse SA, Mietzner TA, ur. "Medicinska mikrobiologija (Jawetz, Melnick i Adelberg)", Placebo d.o.o., 2015. (Medical Microbiology. 26th ed. New York: McGraw-Hill; 2013.)<br>3. **Kaliterna V**. Bunyaviridae. U: Uzunović-Kamberović S, ur. Medicinska mikrobiologija. Zenica: Štamparija Fojnica, 2009. str. 851-5. |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Vilibic-Cavlek T, Stevanovic V, Ilic M, Barbic L, Capak K, Tabain I, Krleza JL, Ferenc T, Hruskar Z, Topic RZ, **Kaliterna V**, Antolovic-Pozgain A, Kucinar J, Koscak I, Mayer D, Sviben M, Antolasic L, Milasincic L, Bucic L, Ferencak I, Kaic B. SARS-CoV-2 Seroprevalence and Neutralizing Antibody Response after the First and Second COVID-19 Pandemic Wave in Croatia, Pathogens. 2021 Jun 20;10(6):774.<br>2. **Kaliterna V**, Barišić Z. Genital human papillomavirus infections. Front Biosci (Landmark Ed). 2018;1;23:1587-611.<br>3. Tonkić M, Sušić E, Goić-Barišić I, **Kaliterna V**, Tambić Andrašević A. Bakteriološka dijagnostiku infekcija mokraćnog i spolnog sustava: smjernice za mikrobiološku dijagnostiku Hrvatskog društva za kliničku mikrobiologiju Hrvatskog liječničkog zbora.Zagreb: Hrvatsko društvo za kliničku mikrobiologiju; 2017.<br>4. **Kaliterna V**, Kaliterna M, Hrenović J, Barišić Z, Tonkić M, Goic-Barisic I. *Acinetobacter baumannii* in the Southern Croatia: clonal lineages, biofilm formation and resistance patterns. Infectious Diseases (Lond) 2015;47(12):902-7.<br>5. Šimundža R, **Kaliterna V**, Mladinić Vulić D, Pejković S. The prevalence of *Ureaplasma urealyticum* bacterium in endocervical swabs in the Split-Dalmatia county. Gynaecol Perinatolog 2015;24(2):56-8. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | - Course „Skills of medical education and scientific work“, University of Split School of Medicine, 2016.<br>- Course „Basic Communication Skills Course ”, University Department of Health Studies, University of Split, 2021. |

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|---|---|
| Title, name and last name of the course leader | **Assistant professor Ph.D. Zlatka Knezović, B.Sc** |
| Title of the course at the proposed study programme | Hygiene and Epidemiology<br>Introduction to laboratory medicine<br>Instrumental techniques in MLD<br>Food Toxicology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | zlatka.knezovic@nzjz-split.hr |
| Year of birth | 1962. |
| Scientist ID | 353820 |
| CROSBI profile ID | 33313 |
| Research rank and date of the last appointment | research associate, 01.07.2020. |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant Professor, 24.11.2020. |
| Area and field of appointment into research rank | Biomedicine and Health, Basic Medical Sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | Teaching Institute for Public Health of Split-Dalmatia County |
| Date of employment | 16.07.1987. |
| Job title (professor, researcher, associate teacher, etc.) | Head of the Department of Chemical Analysis of Food and General Use Items |
| Field of research | Health ecology |
| Position in the institution | Deputy Head of the Health Ecology Service |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Department of Health Studies |
| Date of employment | 24.11.2020. |
| Job title (professor, researcher, associate teacher, etc.) | Assistant Professor |
| Field of research | Medical Laboratory Diagnostics |
| Position in the institution | |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Science (PhD) |
| Institution | Faculty of Chemical Technology, University of Split |
| Place | Split |
| Date | 25.04.2016. |
| 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 (title of course, study programme where it | Leader of the course Food Toxicology |

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|---|---|
| is/was held, and level of study programme) | |
| Authorship of university textbooks from the field of the course | Sutlović, Davorka; Marušić, Jadranka; Stipišić, Angela; Poljak, Vedran; Laštre Primorac, Danja; Majić, Zrinka; Luetić, Sanja; Knezović, Zlatka; Papić, Jasminka; Žafran Novak, Jelena et al. Food toxicology / Sutlović, Davorka (ed.) Split: Redak, 2011.<br><br>Sutlović, Davorka; Kovačić, Zdravko; Riha, Biserka; Žuntar, Irena; Tomašek, Ljubica; Bakulić, Lana; Nestić, Marina; Horvat, Vesna; Mandić, Sanja; Plavšić, Franjo et al.<br>Fundamentals of forensic toxicology / Sutlović, Davorka (ed.) Split: Redak, 2011 |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | Nedoklan, Srđan; Knezović, Zlatka; Knezović, Nina; Sutlović, Davorka. Nutrition and mineral content in human teeth through the centuries // Archives of oral biology, 124 (2021) doi:.org/10.1016/j.archoralbio.2021.105075<br><br>Nedoklan, Srđan; Tadin, Antonija; Knezović, Zlatka; Sutlović, Davorka. Comparison of dental caries in Croats from the early medieval period and the 20th century *// Archives of oral biology,* 109 (2020), 104581, 7. doi:.org/10.1016/j.archoralbio.2019.10458<br><br>Knezović, Zlatka; Trgo, Marina; Sutlović, Davorka<br>Monitoring mercury environment pollution through bioaccumulation in meconium // Process safety and environmental protection, 101 (2016), 2-8 doi:10.1016/j.psep.2016.01.013<br><br>Sutlović, Davorka; Borić, Igor; Slišković, Livia; Popović, Marijana; Knezović, Zlatka; Nikolić, Ivana; Vučinović, Ana<br>Bone mineral density of skeletal remains: Discordant results between chemical analysis and DXA method *// Legal medicine,* 20 (2016), 18-22 doi:10.1016/j.legalmed.2016.03.008<br><br>Knezović, Zlatka; Trgo, Marina; Sutlović, Davorka<br>Assessment of environmental pollution through accumulation of lead and cadmium in meconium samples // Fresenius environmental bulletin, 25 (2016), 12A; 5804-5811 |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Course "Skills of medical education and scientific work", Faculty of Medicine in Split<br>November 14 - 16, 2019 |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

| **Title, name and last name** | **Senior lecturer, Sonja Koren** |
|---|---|
| Title of the course at the proposed study programme | English for MLDI, II |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | sonja.koren@ozs.unist.hr |
| Year of birth | 1963 |
| Scientist ID | |
| CROSBI profile ID | CROSBI ID: **1036027** |
| Research rank and date of the last appointment | Lecturer<br>2013 |
| Research and teaching or teaching rank, and the date of the last appointment | |
| Area and field of appointment into research rank | Area: humanities, field: philology, branch: English |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Department of Health Studies |
| Date of employment | May, 2nd, 2013 |
| Job title (professor, researcher, associate teacher, etc.) | Lecturer |
| Field of research | Humanities |
| Position in the institution | |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | MA in English language and literature and French language and literature |
| Institution | Faculty of Humanities and Social Sciences |
| Place | Zagreb |
| Date | 1989 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | |
| Place | |
| Institution | |
| Field of training | 1. International Scientific and Professional Conference - Contemporary Issues in Economy and Technology - CIET 2014, 19-21 June 2014, University Department of Professional Studies, Split, Croatia (Međunarodna znanstvena i stručna konferencija Contemporary Issues in Economy and Technology - CIET 2014, 19. - 21. lipnja 2014., Sveučilišni odjel za stručne studije, Split, Hrvatska)<br>2. Grammar Learning Strategies, prof.dr.sc. Miroslaw Pawlak, u organizaciji Zavoda za jezike, Sveučilišni odjel za stručne studije, Split, 7. studenog 2014.<br>3. Teaching Grammar - A Practical Perspective, dr.sc. Anna Mystkowska-Wiertelak, u organizaciji Zavoda za jezike, Sveučilišni odjel za stručne studije, Split, 7. studenog 2014.<br>4. Developing English Language Portfolios, Peter Cuypers, MA, predavanje i radionica u organizaciji Ureda za mobilnost i međunarodnu suradnju, 8. svibnja 2015.<br>5. CLIL (Content and Language Integrated Learning) in Portuguese Higher Education - an ongoing project, dr.sc. Ana Gonçalves, predavanje i radionica u organizaciji Ureda za mobilnost i međunarodnu suradnju, 8. svibnja 2015.<br>6. Erasmus+, Introduction to Teaching English for Medical Purposes, 31. kolovoza 2015. – 4. rujna 2015., Ulm, Njemačka |

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| | 7. Workshop „Izrada i pretraživanje maloga specijaliziranoga jezičnoga korpusa“ u organizaciji Udruge nastavnika jezika struke na visokoškolskim ustanovama, 16. veljače 2017.<br>8. Webinar „Corpus-based Discourse Analysis“, Corpus Research Centre, Air University, 26. studenog, 2021.<br>9. IATEFL English for Specific Purposes Special Interest Group online event: ESPSIG: Analysis of learners' needs in the teacjing of English for medical purposes, 30. studenog, 2021. |
| 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 4 |
| 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 (title of course, study programme where it is/was held, and level of study programme) | English language for students of physiotherapy, nursing, midwifery, radiologic technology, and medical laboratory diagnostics |
| Authorship of university textbooks from the field of the course | |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Koren S. (2016). Conceptual Metaphors in Discourse on Organ Donation, Journal of Foreign Language Teaching and Applied Linguistics, Volume 3. – Number 3 – 2016, 163-171. ISSN: 2303-5528<br>2. Duplančić Rogošić G. i Koren S. (2017). Exploring collocational competence of first-year university students as non-native speakers of English“. Conference Proceedings II International Conference From Theory to Practice in Language for Specific Purposes, 23-37. ISSN:1849-9279<br>3. Koren S. i Rogulj J. (2017). Kolokacijska kompetencija neizvornih korisnika engleskog jezika medicinske struke. Zbornik radova Veleučilišta u Šibeniku, 3-4/2017, 19-31. UDK 811.111:61 (izvorni znanstveni članak) ISSN 1846-6699<br>4. Janković S., Koren S., Šarić M., Orlandini R., Antičević V., Švaljug D. i Ante Buljubašić A. (2018). The Croatian Model of University Education for Nurses. International Archives of Nursing and Health Care. ISSN: 2469-5823 |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | 1. Rogulj J. i Koren S. (2018). Od strukturalizma do suvremenog „kuks” (komunikacijsko-učenje/usvajanje-kontrastivno-spoznajno) pristupa u nastavi engleskoga jezika. Zbornik radova Veleučilišta u Šibeniku, 3-4/2018,143-159. UDK 371.3:811.111 (pregledni rad) ISSN 1846-6699<br>2. Rogulj J. i Koren S. (2017). Analiza slučaja: Disleksija i disgrafija u nastavi engleskoga jezika. Vaspitanje i obrazovanje, XLII, 3-4, 247-267, UDK 371.3:811.111):616.89-008.434.5 (pregledni istraživački rad)<br>3. Duplančić Rogošić G. i Koren S. (2018). Researching Plagiarism in Higher Education – Case of First-Year Students at |

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| | Selected HEIs. Conference Proceedings Contemporary Issues in Economy & Technology 2018. |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | UNIOS ZUP-2018-77, Figurative language in Health Communication |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Graduated from the Faculty of Humanities and Social Sciences, teacher education |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

| **Title, name and surname** | **Associate professor Željko Kovačević** |
|---|---|
| The coursehe teaches in the proposed study program | Physcial training I and II |
| GENERAL INFORMATION ABOUT THE HOLDER | |
| E-mail address | zkovacev@oozs.unist.hr |
| Year of birth | 1963. |
| Registration number from the register of scientists | 378662 |
| The number of the person"s crosby profile | CROSBI ID: 959 |
| Scientific or artistic title and date of last selection | |
| Scientific-teaching, artistic-teaching or teaching title and date of last selection | Associate professor, 2022 |
| Area and field of choice for a scientific or artistic title | Kinesiology |
| Data on current employment | |
| Constitution of employment | University Department of Health Studies |
| Date of employment | May 5, 2011. |
| Job title ( professor, researcher, associate, etc.) | professor |
| Work area | |
| Function | Lecturer |
| EDUCATION DATA- Highest degree archieved | |
| Title | Doctor of kineziology |
| Institution | Faculty of Physical Education |
| Place | Banja Luka, Bosnia and Herzegovina |
| Date | |
| TRAINING DATA | |
| Year | |
| Place | |
| Institution | |
| Area of training | |
| NATIVE AND FOREIGN LANGUAGES | |
| Native languages | Croatian |
| Foreign language and language skills on scale from 2 ( sufficient) to 5 ( excellent) | English, 3 |
| Foreign language and language skills on scale from 2 ( sufficient) to 5 ( excellent) | |
| Foreign language and language skills on scale from 2 ( sufficient) to 5 ( excellent) | |
| SUBJECT COMPETENCIES | |
| Previous experience in conducting similar courses (state the nameo f the course, the study program in which it is performed – performed and the level of the study program | Physical education and sports, Faculty of Medicine in Split |
| Authorship of university – faculty textbooks in the field of subjects | |

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|---|---|
| Professional, scientific and artistic works published in the last fiv years in the field of the subject ( maximum 5 references**)** | 1.Diferences in psvchological charactereistics betwen diferent active female students Internaciona lScientific Journal of Kineziologiy June 2015. god. Kovačević.Ž., Štefan.,L, Sporiš.,G.,Čular.,D. Šamija.K<br>2.Metric Characteristics Of Tests Assessing Speed and Agiliti in Youth Soccer Players., Sport Mont 2018.god. Kovačević.,Ž. Žuvela.,Kuvačić.,G.<br>3.Differences in the specific fitness abilities of younger football players, Faculty of Kinesiology,Zagreb 2020.god. Kovačević.,Ž, Duje Poljak., Čavala Marijana;,Nenad Rogulj.<br>4. Recreational kinesiological enegagement and self- respect in students of diferent ages. Opatija 2021. Jelić.,Kovačević.,Ž. Rogulj.,N. Čavala.,M. Đuzel.,J. |
| Professional and scientific papers on methodology and quality of teaching published in the last five years ( maximum 5 references) | |
| Professional, scientific and artistic projects in the field of subjects that have been implemented in the last five years ( maxiumum 5 references)**)** | |
| Within which program and to what extent did the holder acquire methodological-psychological-didactic-pedagogical competencies? | |
| RECOGNITIONS AND AWARDS | |
| Recognitions and awards for teaching and research work-artistic work | University of Split, University Department of Health Studies.Acknowledgments for the overall work of the Department over the past ten years, especially for the results achieved by students and the development of the universty sports at the Universty Department |

| **Title, name and last name** | **Asocc. Prof. dr. sc. Slavica Kozina, psychologist** |
|---|---|
| Title of the course at the proposed study programme | Health Care Psychology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | slavica.kozina@mefst.hr |
| Year of birth | 1966. |
| Scientist ID | MB: 276745 |
| CROSBI profile ID | 26344 |
| Research rank and date of the last appointment | Senior Research Associate, 01. 07. 2020. |
| Research and teaching or teaching rank, and the date of the last appointment | Asocciate professor, 23. 07. 2020. |
| Area and field of appointment into research rank | Biomedicine and healthcare, public health and health care, public health |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | School of Medicine, University of Split |
| Date of employment | 1998. |
| Job title (professor, researcher, associate teacher, etc.) | Professor |
| Field of research | Medical psychology, psychological trauma |
| Position in the institution | Professor |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Ph. D. |
| Institution | School of Medicine, University of Zagreb |
| Place | Zagreb |
| Date | 2011. |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2002/2003 |
| Place | Oslo, Norwey |
| Institution | Department of Psychiatry. Psychosocial Centre for Refugee. Medical School University of Oslo. |
| Field of training | War trauma |
| 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 language (C+, ¾) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | German language (3) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | Undergraduate studies in nursing and physical therapy: Communication skills; Health psychology; Developmental Psychology. |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | |
| Authorship of university textbooks from the field of the course | Urlić I, Jurčević S. *Psychological aspects of diving medicine* (in Croat) Psihološki aspekti medicine ronjenja. U: Petri NM, Andrić D. |

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|---|---|
| | Odabrana poglavlja iz medicine ronjenja: materijali za pohađanje tečaja poslijediplomskog usavršavanja iz medicine ronjenja za liječnike. Split: Hrvatski liječnički zbor, Hrvatsko društvo za podvodnu i hiperbaričku medicinu, Institut pomorske medicine HRM, Medicinski fakultet Sveučilišta u Splitu, 2001:70-75.<br>Jurčević S. *Psychology of pain*. (In Croat) Psihologija boli. U: Jukić M, Sapunar D. Kronična bol-dijagnostički postupak i liječenje. Poslijediplomski tečaj stalnog usavršavanja liječnika (Tečaj I kategorije). Split: Medicinski fakultet u Splitu, 2006:68-71.<br>Jurčević S. *Psychological components of pain.* (In Croat) Psihološke odrednice boli. U: Jukić M. Liječenje kronične boli. Poslijediplomski tečaj stalnog usavršavanja liječnika (Tečaj I kategorije). Split: Ambulanta za liječenje boli. Odjel za anesteziju i intenzivno liječenje KBC Split, Hrvatsko društvo za liječenje boli - Hrvatski liječnički zbor, Hrvatska liječnička komora, 2008:68-71. |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Kozina S, Kowalski M, Vlastelica M, Mastelic T, Borovac JA. Traumatic memory of one's son gone missing in war: content analysis using Krippendorff's alpha. SAGE Open (January-March) 2019:1-9. Doi: 10.1177/2158244019839627<br>2. Kozina S, Vlastelica M, Borovac JA, Mastelić T, Marković D, Lončar M. Violence without a face: The Analysis of Testimonies of Women who were seually assaulted during the war in Croatia and Bosnia and Herzegovina. Psychiatria Danubina, 2018;Vol , (accepted 22.11.2018)<br>3. Lončar, M; Dijanić Plašć, I; Bunjevac, T; Hrabač, P; Jakšić, N; Kozina, S; Henigsberg, N; Šegud, M; Marčinko, D. Predicting Symptom Clusters of posttraumatic Stress Disorder (PTSD) in Croatian War Veterans: The Role of Socio-demohraphis, War Experiences and Subjective Quality of Life. Psychiatria Danubina 2014;26:231-238.<br>4. Jukic M, Kvolik S, Kardum G, Kozina S, Tomic Juraga A. Knowlwdge and Practices of Obtaining Informed Consent or Medical Procedures among Specialist Physicians: Questionnaire Study in 6 Croatian Hospitals. Croat Med J 2009;50:567-74<br>5. Jurcevic S, Allen J, Dahl S. Gender Differences in War-Related Disappearance: Croatian Experiences. Military Medicine 2007;172(4):370-375. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | 1. Jurcevic Kozina S, Malicki M. Professional achievements in medicine: Too many unresolved questions. Acta Medica Academica 2012;41(1):8-25<br>2.<br>3. Jukic M, Kozina S, Kardum G, Hogg R, Kvolik S. Physicians overstimate parient knowledge of the process of informed consent. A cross-sectional study. Med Glas Ljek komore Zenicko-doboj kantona 2011;8(1):39-45 |

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| | 4. Vilovic K, Jurcevic S, Ivanisevic R, Sapunar D. Clinical skills teaching – Survey at medical school in Split and Zagreb. Medicina 2006;42:26-30.<br><br>5. Vlastelica M, Jurčević S. Specifičnosti žalovanja majki čiji su sinovi nestali i/ili su posmrtno identificirani. Soc.psihijat 2008;36:29-32.<br><br>6. Kozina, S; Vlastelica M. Disocijacija i detachment kao odraz traumatskog događaja na aspekte sebstva. Soc. psihijat. 2014; 42:33 – 42. |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | Impact of the scientific journals on the Croatian medical community" (principal investigator Prof. Dr. Sc. Matko Marušić)<br>Project Code: 216-1080314-0245<br>Project duration: 2016 |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | 1. Completed graduate study of psychology (professor of psychology), subjects: Pedagogical Psychology, Developmental Psychology 1 and 2, Didactics and Pedagogy<br><br>2. Completed postgraduate professional studies in “Psychotherapy” |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Croatian Psychological Society Award "Ramiro Bujas” |

| **Title, name and last name** | **Dejan Kružić, PhD**<br>**Full professor tenure** |
|---|---|
| Title of the course at the proposed study programme | Basics of Management in Health Care |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | dkruzic@efst.hr |
| Year of birth | 1954. |
| Scientist ID | 92243 |
| CROSBI profile ID | 20710 |
| Research rank and date of the last appointment | Scientific advisor - tenure |
| Research and teaching or teaching rank, and the date of the last appointment | Full professor tenure, 24.5.2018. |
| Area and field of appointment into research rank | Social sciences, Field of Economy, branch Economics of Entrepreneurship |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | Faculty of Economics, Business and Tourism Split |
| Date of employment | 01.03.2003. |
| Job title (professor, researcher, associate teacher, etc.) | Professor at the Department of management |
| Field of research | Crisis management, Entrepreneurship |
| Position in the institution | Full professor tenure |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | Faculty of Economics, Business and Tourism Split |
| Place | Split |
| Date | 1983. |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | |
| Place | |
| Institution | |
| Field of training | |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Mother tongue | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English (3) |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | Italian (2) |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Crisis management; Entrepreneurship; Family business; Entrepreneurial planning; Public-private partnership projects; Postgraduate and graduate university studies; Undergraduate university and professional study |
| Authorship of university textbooks from the field of the course | Kružić, D. (ur.), *Obiteljsko poduzetništvo*, Ekonomski fakultet Mostar i Ekonomski fakultet Split, 2016.<br><br>Buble, M., Kružić, D.: *Poduzetništvo – realnost sadašnjosti i izazov budućnosti*, RRiF, Zagreb, 2006. |
| Professional and research papers | Kružić, D., Ivić, M., Cindrić, I.*: Corporate Social Responsibility as a Reputation Mechanism for the Companies Operating in Media Industry*, Proceedings of the 7th International OFEL Conference on |

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| published in the last five years from the field of the course **(max 5 references)** | Governance, Management and Entrepreneurship: Embracing Diversity in Organisations, Zagreb, 2019.<br>Škokić, V., Kružić, D., *Knowledge creation and the need for new research directions in entrepreneurship studies*, Management Education and Research in the Upcoming Epoch: Rethinking Discipline and Reconceptualization Modes of Creating Knowledge (Tipurić, D., Aleksić, A., ur.). Ekonomski fakultet Zagreb, Zagreb, 2017.<br>Bulog, I., Jukić, I., Kružić, D., *Managerial Skills: Does Family Ownership Make a Difference*? Proceedings of the 5th International OFEL Conference on Governance, Management and Entrepreneurship: The Paradoxes of Leadership and Governance in the Postmodern Societx, Tipurić, D., Galetić, F. (ur.), CIRU, Zagreb, 2017.<br>Kružić, D. (ur.), *Obiteljsko poduzetništvo*, Ekonomski fakultet Mostar i Ekonomski fakultet Split, 2016. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Medal of the City of Split (2003) for outstanding contribution to local development management and for an overall scientific and professional activities.<br><br>Award of the Faculty of Economics in Split for the book *Family Business* (2004).<br><br>Recognition of the Faculty of Economics in Split for valuable scientific work - for co-authorship of the book *Influence of organizational variables on the success of business process improvement programs* (2010).<br><br>Recognition of the Faculty of Economics in Split for valuable scientific work - the book *Family Businesses - Life Cycles, Inheritance and Sustainability* (2012).<br><br>Recognition of the Faculty of Economics in Split for valuable scientific work - for co-authorship of the book *Possibilities of Restructuring Aluminij d.d. Mostar* (2013).<br><br>Award of the Faculty of Economics in Split for valuable scientific work - for co-authorship of the book *Family Entrepreneurship* (2015). |

| **Title, name and last name** | **Assistant Professor, Sendi Kuret, PhD** |
|---|---|
| Title of the course at the proposed study programme | Biology<br>Biochemistry II<br>Cell biology with the basics of genetics<br>Instrumental techniques in MLD<br>Molecular Biology Techniques in Medicine |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | sendikuret@ozs.unist.hr |
| Year of birth | 1971. |
| Scientist ID | 279142 |
| CROSBI profile ID | 22887 |
| Research rank and date of the last appointment | |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant Professor,2020 |
| Area and field of appointment into research rank | Biomedicine and health, field of basic medical science, genetics |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University Department of Health Studies |
| Date of employment | April 20,2021 |
| Job title (professor, researcher, associate teacher, etc.) | Assistant Professor |
| Field of research | Medical-laboratory diagnostics |
| Position in the institution | |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Science (PhD) |
| Institution | Faculty of Science, University of Zagreb |
| Place | Zagreb |
| Date | 2011. |
| 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 (title of course, study programme where it is/was held, and level of study programme) | |
| Authorship of university textbooks from the field of the course | |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Sutlović D, Kuret S, Definis M. New psychoactive and classic substances in pooled urine samples collected at the Ultra Europe festival in Split, Croatia. Arhiv za higijenu rada i toksikologiju 2021, 72 (3): 198-204.<br>2. Sutlović D, Ključević Ž, Kuret S. ABCB1, CYP2B6, and CYP3A4 genetic polymorphisms do not affect methadone maintenance |

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| | treatment in HCV-positive patients. Arh Hig Rada Toksikol. 2020, 71 (4): 353-358.<br>3. Bezić J, Kuret S, Vrbičić B, Smolić J, Borić I, Škifić I, Ledina D, Božić J. Clinicopathological Characteristics of BRAF V600E Mutated Melanomas in the Dalmatian Region of Croatia. Acta Dermatovenerol Croat. 2019, 27(4):225-230.<br>4. Piljić Burazer M, Mladinov S, Matana A, Kuret S, Bezić J, Glavina Durdov M. Low ERCC1 expression is a good predictive marker in lung adenocarcinoma patients receiving chemotherapy based on rend sin n all TNM stages – a single-center study. Diagnostic Pathology 2019; 14;14(1):105<br>5. Vince A, Židovec Lepej S, Bingulac-Popović J, Miletić M, Kuret S, Sardelić S, Baća Vrakela I, Kurelac I. Distribution of hepatitis C virus genotypes and subtypes in Croatia: 2008-2015. Central European Journal of Public Health 2018; 26(3): 159-63. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 1. Project collaborator - "Effect of cannabinoids on inflammatory markers and blood pressure in elderly healthy subjects" , external source of funding, principal investigator full professor Željko Dujić, Faculty of Medicine, University of Split<br>2. Project collaborator of the scientific research project of the Government of the Republic of Croatia "Monitoring of intoxication with new psychoactive substances by analysis of urine samples" (2018) Leader prof.dr.sc. Davorka Sutlović |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

| **Title, name and last name** | **Mihajlo Lojpur, M.D., Ph.D.** |
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| Title of the course at the proposed study programme | Emergencies in medicine |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | mihajlo.lojpur@gmail.com |
| Year of birth | 1958. |
| Scientist ID | 345900 |
| CROSBI profile ID | 32509 |
| Research rank and date of the last appointment | / |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant Professor, July 1, 2014 |
| Area and field of appointment into research rank | Biomedicine and Health, Clinical Medical Sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | School of medicine, University of Split / University hospital Split Department of anesthesiology and intensive care |
| Date of employment | In University hospital Split from February 13, 1992. |
| Job title (professor, researcher, associate teacher, etc.) | Spec. anesthesiologist, subspecialist in intensive care medicine / research associate |
| Field of research | Anesthesiology, resuscitation and intensive care |
| Position in the institution | Head of the Department of Anesthesiology, Clinic of Anesthesiology, Resuscitation and Intensive Care / lecturer |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | M.D., Ph.D. |
| Institution | School of medicine, University of Split |
| Place | Split |
| Date | Postgraduate doctoral study completed on April 5, 2013 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2000., 2003.-2007., 2008. |
| Place | Rijeka, Zagreb, Rome |
| Institution | University clinical Rijeka, Clinical hospital zagreb |
| Field of training | Cardioanesthesia and intensive care of cardiac surgery patients. Echocardiography (EACTA Echo'08). |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Mother tongue | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English, 4 |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | German, 2 |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | • Resuscitation and emergency medicine courses of the Croatian Medical Association since 1996. and the European Resuscitation Council (ERC) since 2002.<br>• Co-organizer and lecturer in the Postgraduate Courses in Anesthesiology, Resuscitation and Intensive Care under the auspices of the Council of the European Community and the aegis of the Foundation for European Education in Anesthesiology (FEEA), from 2002. to 2010. |

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| | • Co-organizer and lecturer in Fundamental Critical Care Support Course Society of Critical Care Medicine, Split, Croatia, 2004. – 2009.<br>• Lecturer at the courses of Croatian Society of Anesthesiology, Reanimatology and Intensive Care Medicine of the Croatian Medical Association and the Committee for European Education in Anesthesiology (CEEA) from 2018<br>• Head of the Department of First Aid, at the Faculty of Medicine in Split, from 2007 to 2010. (graduate study) |
| Authorship of university textbooks from the field of the course | 1. Coautor of Basic Clinical skills. In: Simunovic VJ: Catalogue of Clinical Skills. Seattle: CreateSpace Independent Publishing Platform; 2013. ISBN - 10: 1489580212.<br>2. Autor of BLS. In: Simunović VJ: Basic and General Clinical Skills. Seattle: CreateSpace Independent Publishing Platform; 2013. ISBN - 10: 1489556648<br>3. Autor of ALS. In: Simunović VJ: Basic and General Clinical Skills. Seattle: CreateSpace Independent Publishing Platform; 2013. ISBN - 10: 1489556648<br>4. Autor of chapeter Resuscitation In: Šimurina, T, Mraović, B. General clinical anesthesiology and resuscitation. Zadar, Department of Health Studies, University of Zadar, 2020 |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | • Anic, Ante; Breskovic, Toni; Jurisic, Zrinka; Borovina, Ante Lojpur, Mihajlo Kocen, Dubravka; Nenadic, Denis; Bulat, Cristian; Vukovic, Ivica; Duplancic, Darko. Percutaneous epicardial approach for ablation of ventricular tachycardia in patients with structural heart disease - a review of a series of patients from the Clinical Hospital Center Split. Cardiologia Croatica. 13 (2018), 11-12; 318-318 doi: 10.15836 / ccar2018.318 |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | • Medical School Split, Integrated Learning in Medicine, (Intel-M „Train the Trainee Seminar“), Split, Croatia, 2007.<br>• Medical school Split, Skills of medical education and research, Medical School Split, Split, Croatia, 2012. |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | 1. Acknowledgement of the Croatian Medical Association for improving medical profession, improving health and humanitarian activity (2008.)<br>2. Diploma of the Croatian Medical Association for significant contribution in professional, scientific, and ethic principles and improvement of national health (2014.)<br>3. Muniment of the Croatian Chamber of Dental Medicine (HKDM) for special contribution to the development and improvement of dental activity in the Republic of Croatia, significant merits and assistance to the Chamber in accomplishing its tasks (2016) |

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| | 4. Muniment of the Croatian Medical Association for a special contribution to the development and improvement of healthcare and healthcare activities in the Republic of Croatia, for the contribution of medical science and significant merit and assistance to the Croatian Medical Association in the accomplishment of its tasks (2017.)<br>5. Ladislav Rakovac Award of the Croatian Medical Association Assembly for the achieved results in the development of medicine, medical thought and science and especially for effective work in the Choir (2019) |

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| Title, name and last name of the course leader | **Associate professor Snježana Mardešić, MD** |
| Title of the course at the proposed study programme | Histology and Embryology<br>Laboratory histopathological techniques |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | smardesi@mefst.hr |
| Personal web page | / |
| Year of birth | 1979. |
| Scientist ID | 307826 |
| CROSBI profile ID | 33521 |
| Research rank and date of the last appointment | Senior research associate – 13. 11. 2018. |
| Research and teaching or teaching rank, and the date of the last appointment | Associate professor of Histology and Embryology- 1. 4. 2019. |
| Area and field of appointment into research rank | Biomedicine and Health, Basic sciences, Cytology, Histology and Embryology |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | School of Medicine, University of Split |
| Date of employment | 1.07.2008. |
| Job title (professor, researcher, associate teacher, etc.) | Associate professor |
| Field of research | Human embryology and histology |
| Position in the institution | Head of Histology and Embryology Department, School of Medicine, University of Split |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Philosophy |
| Institution | School of Medicine, University of Split |
| Place | Split, Croatia |
| Date | 10.2.2012. |
| 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-Excellent |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | German-Good |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | - *Graduate education*:<br>Histology and Embryology (School of Medicine in Split and Mostar).<br>- Embryology and Histology, Department of Health Studies, University of Split<br>Laboratory histopathologic technics, Department of Health Studies, University of Split |

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| | - Elective courses “Development and anomalies of head and neck”, “Test tube baby”, “The secrets of human development”, “Sport and steroid abuse”<br><br>- e-teaching: Elective course “Development and anomalies of the head and neck”<br>- *Postgraduate teaching*-<br>Postgraduate study Biology of the neoplasm, School of Medicine in Split:<br>Elective course “Human embryo: development, anomalies and tumors”, “Development, anomalies and tumors of the head and neck” |
| Authorship of university textbooks from the field of the course | Saraga-Babić M, Puljak L, Mardešić S, Kostić S, Sapunar D. “Human Embryology and Histology”, University of Split, 2015.<br>Glavina Durdov M, Bedrina K, Mardešić S . Laboratory histopathologic technics Redak, Split. 2015. |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Solic, I.; Racetina, A.; Filipovic, N.; Mardesic, S.; Bocina, I.; Galesic-Ljubanovic, D.; Glavina Durdov, M.; Saraga-Babic, M.; Vukojevic, K. Expression Pattern of α-Tubulin, Inversin and Its Target Dishevelled-1 and Morphology of Primary Cilia in Normal Human Kidney Development and Diseases. International Journal of Molecular Science 22 (7), 2021.<br>2. Boric, K.; Mardesic, S.; Martinovic Kaliterna, D.; Radic, M.; Tadin Hadjina, I.; Vukojevic, K.; Kosovic, I.; Solic, I.; Zekic Tomas, S.; Saraga-Babic, M.Expression of apoptotic and proliferation factors in gastric mucosa of patients with systemic sclerosis correlates with form of the disease. Scientific Reports 9 (1), 2019.<br>3. Racetin A, Raguž F, Durdov MG, Kunac N, Saraga M, Sanna-Cherchi S, Šoljić V, Martinović V, Petričević J, Kostić S, Mardešić S, Tomaš SZ, Kablar B, Restović I, Lozić M, Filipović N, Saraga-Babić M, Vukojević K. Immunohistochemical expression pattern of RIP5, FGFR1, FGFR2 and HIP2 in the normal human kidney development. Acta Histochem.;121(5):531-538, 2019.<br>4. Bečić T, Bilan K, Mardešić S, Vukojević K, Saraga-Babić M. Growth factors FGF8 and FGF2 and their receptor FGFR1, transcriptional factors Msx-1 and MSX-2, and apoptotic factors p19 and RIP5 participate in the early human limb development Acta Histochem. 120(3):205-214, 2018.<br>5. Rancic A, Filipovic N, Marin Lovric J, Mardesic S, Saraga-Babic M, Vukojevic K; Neuronal differentiation in the early human retinogenesis. Acta Histochemica 119(3):264-272, 2017. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 2018. -2023. project participant Characterization of candidate genes in congenital anomalies of the kidney and urinary system (CAKUT) during mouse and human development HRZZ IP-06-2016-2575 |

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| | 2020 - 2023 project participant SI4CARE -Social Innovation for integrated health CARE of ageing population in ADRION Regions. |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | - Course “Skills for medical education and scientific work”, School of Medicine, University of Split, 2011. |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | |

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| First and last name and title of teacher | **Nina Mišić Radanović, PhD.**<br>**Assistant professor** |
| The course he/she teaches in the proposed study programme | Social and Health Legislation |
| GENERAL INFORMATION ON COURSE TEACHER | |
| E-mail address | nina.misic.radanovic@unist.hr |
| Personal web page | |
| Year of birth | 1988. |
| Scientist ID | 348995 |
| 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, 10.7.2018. |
| Area and field of election into research or art rank | Scientific area: social sciences<br>Scientific field: law |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution where employed | University of Split, University Department of Forensic sciences |
| Date of employment | 14.11. 2012. |
| Name of position (professor, researcher, associate teacher, etc.) | Assistant professor |
| Field of research | Criminal law, Criminal procedure law, Civil law, Civil procedure law, Medical law |
| Function | Head of Chair of law sciences |
| INFORMATION ON EDUCATION – Highest degree earned | |
| Degree | PhD. |
| Institution | Faculty of law, University of Mostar |
| Place | Mostar |
| Date | 21.10.2017. |
| 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 - 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) | - Law in Forensic sciences - graduate university study of Forensics<br>- Civil law and civil procedure - graduate university study of Forensics<br>- Criminal law - graduate university study of Forensics<br>- Forensics and liability in medicine - graduate university study of Forensics<br>- Introduction to law I. – undergraduate university study of Forensics |

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| | - Introduction to law II. - undergraduate university study of Forensics |
| 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. MIŠIĆ RADANOVIĆ, Nina: *Pristanak pacijenta na medicinski zahvat kao razlog za isključenje protupravnosti,* Zbornik radova Pravnog fakulteta u Splitu, god.55. 4/2018. str. 865.-892.<br>2. MIŠIĆ RADANOVIĆ, Nina: *Novo kazneno djelo prisile prema zdravstvenom radniku,* Zbornik radova s međunarodnog kongresa „1. Kongres KOKOZ-a i 3. Hrvatski kongres medicinskog prava s međunarodnim sudjelovanjem“, Rabac, 2019., str. 147.-170.<br>3. MIŠIĆ RADANOVIĆ, Nina: *Prijepori o kaznenoj odgovornosti medicinskih djelatnika za stručnu pogrešku*, Godišnjak Akademije pravnih znanosti Hrvatske, Vol. XI. No.1, 2020, str. 41-62,<br>4. MIŠIĆ RADANOVIĆ, Nina, VUKUŠIĆ, Ivan: *Quality standard and causality in healthcare malpractice,* ECLIC, Osijek, rujan 2020.<br>5. MIŠIĆ RADANOVIĆ, Nina: *Pravni aspekti odbijanja medicinskog postupka*, Godišnjak Akademije pravnih znanosti Hrvatske, XII (2021.) str. 263.-287. |
| Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most) | |
| Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most) | |
| The name of the programme and the volume in which the main teacher passed exams in/acquired the methodological-psychological-didactic-pedagogical group of competences?-pedagoške kompetencije? | Seminar for development and training of pedagogical competencies of university lecturers, CIRCO - Center for research and development of lifelong learning, February 28, 2013. |
| PRIZES AND AWARDS, STUDENT EVALUATION | |
| Prizes and awards for teaching and scholarly/artistic work | Commendation to the first author of the best scientific work created at the University Department of Forensic Sciences published in the academic year 2019/2020<br><br>Acknowledgment for special contribution to the work of the Commission for launching the undergraduate university study of Forensics |
| 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) | Student surveys – average grade 4,8 |

| **Title, name and last name** | **Assistant professor Antonela Matana, PhD** |
|---|---|
| Title of the course at the proposed study programme | Healthcare Informatics and Statistics<br>Use of Scientific Technology<br>Mathematics |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | antmatana@ozs.unist.hr |
| Year of birth | 1989. |
| Scientist ID | 365156 |
| CROSBI profile ID | 34453 |
| Research rank and date of the last appointment | Research associate, 10.7. 2019 |
| Research and teaching or teaching rank, and the date of the last appointment | Assistant professor, 24.11.2020. |
| Area and field of appointment into research rank | Biomedicine and Health, Basic Medical Sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | The University of Split, University Department of Health Studies |
| Date of employment | 20. 4 2021 |
| Job title (professor, researcher, associate teacher, etc.) | Assistant professor |
| Field of research | Biostatistics |
| Position in the institution | Assistant professor |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | University of Split, School of Medicine |
| Place | Split, Croatia |
| Date | 21.12.2018 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2019. |
| Place | Split, Croatia |
| Institution | The University of Split, Faculty of Science |
| Field of training | Bioinformatics and Statistics |
| Year | 2017 |
| Place | London, England |
| Institution | Imperial College London, London |
| Field of training | Genome-wide association studies |
| Year | 2017 |
| Place | Split, Croatia |
| Institution | The University of Split, Faculty of Science |
| Field of training | Bioinformatics and Statistics |
| 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 (title of course, study programme where it is/was held, and level of study programme) | - |
| Authorship of university textbooks from the field of the course | - |

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| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | Matana A, Boutin T, Torlak V, Brdar D, Gunjaca I, Kolcic I, et al. Genome-wide analysis identifies two susceptibility loci for positive thyroid peroxidase and thyroglobulin antibodies. J Clin Endocrinol Metab. 2019.<br>Matana A, Ziros PG, Chartoumpekis DV, Renaud CO, Polasek O, Hayward C, et al. Rare and common genetic variations in the Keap1/Nrf2 antioxidant response pathway impact thyroglobulin gene expression and circulating levels, respectively. Biochem Pharmacol. 2019.<br>Matana A, Popovic M, Boutin T, et al. Genetic Variants in the ST6GAL1 Gene Are Associated with Thyroglobulin Plasma Level in Healthy Individuals. Thyroid. 2019;29(6):886-893.<br>Punda A, Škrabić V, Torlak V, Gunjača I, Boraska Perica V, Kolčić I, Polašek O, Hayward C, Zemunik T, Matana A. Thyroid hormone levels are associated with metabolic components: a cross-sectional study. Croat Med J. 2020 Jul 5;61(3):230-238.<br>Matana A, Brdar D, Torlak V, Boutin T, Popović M, Gunjača I, Kolčić I, Boraska Perica V, Punda A, Polašek O, Barbalić M, Hayward C, Zemunik T. Genome-wide meta-analysis identifies novel loci associated with parathyroid hormone level. Mol Med. 2018 Apr 11;24(1):15. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | - |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 2021 – Principal investigator at the Institutional project "Adherence to the pattern of the Mediterranean diet and the level of physical activity in children and youth in Croatia"<br><br>2020 - 2024 Associate at the Croatian Science Foundation "Research project" Regulation of thyroid and parathyroid function and blood calcium homeostasis ", leader prof. Tatijana Zemunik<br><br>2014 - 2018 Doctoral student at the Croatian Research Institute of Research Project IP-11-2013 No. 1498 "Discovery of new gene loci involved in the regulation of thyroid and thyroid function", leader prof. Tatijana Zemunik |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Undergraduate study of Mathematics and Informatics at the Faculty of Science in Split, Croatia. |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | 2021. University of Split Science Award 2020 in the category of Young Scientists for the best-ranked scientists according to WoSCC and Scopus databases<br><br>2017. Best Presentation Award, „ICHG 2017: 19th International Conference on Human Genetics, December 18-19 2017'', Bangkok, Thailand<br><br>2012. Scholarship of the European Society of Human Genetics (ESHG) for participation in a training course: „Introduction to the statistical analysis of genome-wide association studies", Department of Genomics of Common Disease, Imperial College London, UK |

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| Title, name and last name of the course leader | **Associate professor Ante Obad, MD, PhD** |
| Title of the course at the proposed study programme | Physiology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | ante.obad@ozs.unist.hr |
| Personal web page | https://publons.com/researcher/2124876/ante-obad/ |
| Year of birth | 1972 |
| Scientist ID | 276655 |
| CROSBI profile ID | 23191 |
| Research rank and date of the last appointment | Senior research associate, 04/07/2018 |
| Research and teaching or teaching rank, and the date of the last appointment | Associate professor, 22/01/2019 |
| Area and field of appointment into research rank | Biomedicine and Health, Basic medical sciences, Human physiology |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | University of Split, University Department of Health Studies |
| Date of employment | 16/10/2012 |
| Job title (professor, researcher, associate teacher, etc.) | Associate professor |
| Field of research | Internal medicine, Cardiology |
| Position in the institution | Associate professor, Deputy Head of the Department,<br>Assistant to the Head of the Department for Development and Innovation |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD |
| Institution | School of Medicine, University of Zagreb |
| Place | Zagreb, Croatia |
| Date | 2009 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1998 and 1999 |
| Place | Zagreb, Croatia |
| Institution | Clinical Hospital Merkur, Department for Radiology |
| Field of training | Postgraduate course for medical doctors I category: “Ultrasound of abdominal organs” (1998);<br>“Ultrasound of thyroid gland and surface organs” (1998);<br>“Ultrasound-doppler of blood vessels” (1999) |
| Year | 2001 |
| Place | London, United Kingdom |
| Institution | Imperial College of Medicine, Department for Cardiology |
| Field of training | Course in Echocardiography |
| Year | 2002 |
| Place | Bad-Oyenhausen, Germany |
| Institution | Herz und Diabeteszentrum, Department for Cardiology |
| Field of training | Education in area of Echocardiography |
| Year | 2007 |
| Place | Zagreb, Croatia |
| Institution | Clinical Hospital Dubrava |
| Field of training | Course in Transesophageal Heart Ultrasound |
| Year | 2009 |
| Place | Liverpool, United Kingdom |
| Institution | Jhon Moores University, School of Sport and Exercise Sciences |
| Field of training | Course in Cardiovascular Ultrasound in Sport and Exercise Science |
| Year | 2010 |
| Place | Trondheim, Norway |

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| Institution | NTNU Trondheim |
| Field of training | Education from echocardiography, tissue doppler |
| Year | 2013 |
| Place | Baar, Switzerland |
| Institution | Switzerland cardiology society |
| Field of training | Course on CPET (Cardiopulmonally exercise training) |
| Year | 2018-2019 |
| Place | Geneva, Switzerland |
| Institution | Geneva School of Diplomacy and International Relations |
| Field of training | Executive diploma in diplomatic practice |
| 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 – excellent (5) |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Lecturer at the Department of Physiology, Faculty of Medicine since 2004 an in other study programs of health faculties University of Split (Dentistry, Pharmacy, English study of Medicine).<br>Since 2012 is a course leader of "Physiology" at the University Department of Health Studies |
| Authorship of university textbooks from the field of the course | - |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Zubac, Damir; Obad, Ante; Zec, Mirela; Bosnjak, Ana; Ivancev, Vladimir; Valic, Zoran. Spleen Contraction During Step-Transition Supine Cycling Exercise: Preliminary findings // The FASEB journal, 35 (2021), 1; 456-456<br>2. Zubac, Damir; Obad, Ante; Zec, Mirela; Bosnjak, Ana; Ivancev, Vladimir; Valic, Zoran. Spleen Contraction During Step-Transition Supine Cycling Exercise: Preliminary findings // The FASEB journal, 35 (2021), 1; 456-456<br>3. Šegrt Ribičić, Ivana; Valić, Maja; Božić, Joško; Obad, Ante; Glavaš, Duška; Glavičić, Igor; Valić, Zoran Influence of oxygen enriched gases during decompression on bubble formation and endothelial function in self-contained underwater breathing apparatus diving: a randomized controlled study // Croatian medical journal, 60 (2019), 265-272<br>4. Mijacika, Tanja; Frestad, Daria; Kyhl, Kasper; Barak, Otto; Drviš, Ivan; Secher, Niels H.; Buca, Ante; Obad, Ante; Dujic, Ante; Madsen, Per Lav Blood pooling in extrathoracic veins after glossopharyngeal insufflation // European journal of applied physiology, 117 (2017), 4; 641-649<br>5. Susilovic-Grabovac, Zora; Obad, Ante; Duplančić, Darko; Banić, Ivana; Brusoni, Denise; Agostoni, Piergiuseppe; Vuković, Ivica; Dujic, Zeljko; Bakovic, Darija 2D speckle tracking echocardiography of the right ventricle free wall in SCUBA divers after single open sea dive // CLINICAL AND EXPERIMENTAL PHARMACOLOGY AND PHYSIOLOGY, 45 (2017), 3; 234-240 |
| Professional and research papers | - |

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| In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | Active participation in the realization of scientific-research projects:<br>1. Diving with compressed air and cardiovascular system; project code: 216-2160133-0130; duration of the project: 01/01/2007-31/12/2013<br>2. Apnea diving and cardiovascular system; project code; 216-2160133-0330; duration of the project: 01/01/2007-31/12/2013<br>3. Cardiovascular effects of wine and its ingredients; project code: 216-2160547-0537; duration of the project: 01/01/2007-31/12/2013<br>4. Natural sources of resveratrol and its synergistic effect with other polyphenols; project code: 011-2160547-2226; duration of the project: 01/01/2007-01/01/2009<br>5. Heart failure in Croatia; project code: 108-1081875-1927; duration of the project: 01/01/2007-01/01/2009 |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Acknowledgment of the University Department of Health Studies for contribution to the University Department of Health Studies University of Split; May 2021 |

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| Title, name and last name of the course leader | **prof.Valdi Pešutić-Pisac, full professor** |
| Title of the course at the proposed study programme | Pathology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | valdypp@gmail.com |
| Personal web page | no |
| Year of birth | 1962 |
| Scientist ID | 147360 |
| CROSBI profile ID | 26679 |
| Research rank and date of the last appointment | Full scientific consultant 10.07.2019 |
| Research and teaching or teaching rank, and the date of the last appointment | Full professor 12.07.2019. |
| Area and field of appointment into research rank | Biomedicine and health, field of clinical medical sciences |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | KBC Split; Medicinski Fakultet u Splitu |
| Date of employment | 1989; 2004 |
| Job title (professor, researcher, associate teacher, etc.) | Pathologist, professor |
| Field of research | Pathology, education |
| Position in the institution | Pathologist, Head of Department of Pathology |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | PhD; full professor |
| Institution | Medical School University of Zagreb; Medical School University of Split |
| Place | Zagreb; Split |
| Date | 2000; 2019 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1995.; 1996.; 1998.;1999; 2001; 2003;2005 |
| Place | Rome, Zagreb |
| Institution | Department of Pathology, Policlinico “A.Gemelli”, University of »Sacro Cuore» Rome, Italy, Department of Pathology, Tumor Institute , Zagreb Hrvatska., |
| Field of training | Pathology |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Mother tongue | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English 5 |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | Italian 5 |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | Undergraduate teaching:<br>- Undergraduate teaching in Pathology, Doctor of Medicine, Faculty of Medicine, University of Split and Mostar<br>- Undergraduate teaching in Pathology, Dental Medicine, Faculty of Medicine in Split |

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| | - Undergraduate teaching in Pathology, study Pharmacy, Faculty of Medicine in Split<br>-Undregraduate teaching in Pathology, Medical Studies in English, Faculty of Medicine in Split<br>- study of Nursing, University Department of Health Studies, University of Split<br>-study of Nursing, University of Dubrovnik<br><br>Postgraduate teaching<br>- Postgraduate doctoral study "Evidence-based medicine" of the Medical Faculty in Split (Elective course: "Precancerous lesions of the digestive system")<br>-Postgraduate doctoral study "Biology of neoplasms", Faculty of Medicine Split (elective course "Molecular diagnostics of tumors of the urinary system and male reproductive system" |
| Authorship of university textbooks from the field of the course | Author of the chapter "Gastrointestinal system" in books :<br>1. Damjanov I, Jukić S. Specijalna patologija, Medicinska naklada, Zagreb, 2004; 221-277.<br>2. Damjanov I, Jukić S, Nola M. Patologija. Medicinska naklada , Zagreb, 2008; 391-435.<br>3. Damjanov I, Jukić S, Nola M. Patologija. Medicinska naklada , Zagreb, 2011;505-564.<br><br>Author of the chapter "Endocrine System Diseases" in books:<br>1. Damjanov I, Seiwerth S,Jukić S, Nola M. Patologija. Medicinska naklada , Zagreb, 2014; 659-696<br>2. Damjanov I, Seiwerth S,Jukić S, Nola M. Patologija. Medicinska naklada , Zagreb, 2018;659-696<br><br>Author of the chapter "Pathology of Head and Neck" u knjizi: Prgomet D i sur. Head and Neck Tumors, Medicinska naklada, Zagreb, 2019; 21-46. |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | 1. Brčić L, Barić A, Benzon B, Brekalo M, Gračan S, Kaličanin D, Škrabić V,Zemunik T, Barbalić M, Novak I, **Pešutić Pisac** V, Punda A, Boraska Perica V. AATF and SMARCA2 are associated with thyroid volume in Hashimoto's thyroiditis patients. Sci Rep. 2020 Feb 4;10(1):1754. doi: 10.1038/s41598-020-*58457-x. PMID: 32019955; PMCID: PMC7000742*<br>2.Tonkić A, Vukovic J, Vrebalov Cindro P, **Pesutic Pisac V**, Tonkic M. Diagnosis of Hellicobacter pylori infection: A short review. Wien Klin Wochenschr. 2018 ;130(17-18): 530-534<br>3.Kontić M.Čolović Z,Paladin I, Gabelica M,Barić A,**Pešutić-Pisac V**. Association between EGFR expression and clinical outcome of laryngeal HPV squamous cell carcinoma, Acta Otolaryngol. 2019 Aug 20:1-5<br>4. Punda A, Bedeković V, Barić A, Kontić M, Čolović Z, Vanjaka Rogošić L, Punda H, Kunac N, Grandić L, **Pešutić Pisac V**. RET expression and its correlation with clinicopathologic data in papillary thyroid carcinoma. Acta Clin Croat. 2018 Dec;57(4):646-652<br>5.Barić A, Marković V, Eterović D, Bedeković V,Kontić M, Juretić Kuščić L, **Pešutić Pisac V,**Punda A. Cyclin D1, RET and p27 Expression in Papillary Microcarcinoma. Acta Clin Croat 2017; 56(1): 15-20. |
| Professional and research papers | |

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| In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | 1. Carcinogenesis and prognostic markers in laryngeal squamous cell carcinoma - Code: 216-0000000-0085; Ministry of science, education and sport – Head of project<br>2. Regulation of thyroid and parathyroid function and blood calcium homeostasis - associate on project<br>(1. 3. 2020. – 29. 2. 2024).<br>Head of project: Prof. dr. sc. Tatijana Zemunik<br>3. Genetic and epigenic markers as indicators of aggressiveness of differentiated thyroid cancer (ThyroGene Mark)- associate on project<br>Croatian Science Foundation project<br>Head of project : academician Zvonko Kusić |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | Medical school of Split- Educator education course |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Award for the best professor- Medical school of Split 2009.<br>Award of Croatian Medical Association 2010. |

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| Title, name and last name of the course leader | **Mirna Saraga-Babić, full professor with tenure** |
| Title of the course at the proposed study programme | Histology and Embryology |
| GENERAL INFORMATION ON COURSE LEADER | |
| E-mail address | msb@mefst.hr |
| Personal web page | / |
| Year of birth | 1955 |
| Scientist ID | 111141 |
| CROSBI profile ID | 25396 |
| Research rank and date of the last appointment | |
| Research and teaching or teaching rank, and the date of the last appointment | Full professor of Histology and Embryology- permanent position, 10th of April 2008. |
| Area and field of appointment into research rank | Biomedicine and Health, Basic sciences, Cytology, Histology and Embryology |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution of employment | School of Medicine, University of Split |
| Date of employment | 1.09.1981. |
| Job title (professor, researcher, associate teacher, etc.) | professor |
| Field of research | Human embryology and histology |
| Position in the institution | Head of the Department of Anatomy, Histology and Embryology, School of Medicine, University of Split |
| INFORMATION ON EDUCATION – Highest degree achieved | |
| Degree | Doctor of Philosophy |
| Institution | School of Medicine, University of Zagreb |
| Place | Zagreb, Croatia |
| Date | 1989 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 1/ 1983, 1984; 2/ 1993; 3/ 1988, 1991, 2000 |
| Place | 1/ Tubingen, Germany; 2/ Gottingen, Germany, 3/ Helsinki, Finland |
| Institution | 1/ Max-Planck Institute; 2/ Max-Planck Institute; 3/ Institute of Biotechnology |
| Field of training | 1/ Electron microscopy; 2/ In situ hybridization; 3/ Immunohistochemistry |
| 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-Excellent |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | |
| COMPETENCES FOR THE COURSE | |
| Earlier experience as course teacher of similar courses (title of course, study programme where it is/was held, and level of study programme) | - *Graduate education*:<br>Histology and Embryology (School of Medicine in Split, Zagreb and Mostar, School of Dental Medicine in Split).<br>- Embryology and Histology, Department of Health Studies, University of Split<br>- Elective courses “Development and congenital kidney diseases”, “Fertilization”<br>- e-teaching: Elective course “Development and anomalies of the |

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| | head and neck"<br>- *Postgraduate teaching*-<br>Postgraduate study Biology of the neoplasm, School of Medicine in Split:<br>Elective course "Human embryo: development, anomalies and tumors"<br>- Postgraduate teaching – Postgraduate study, School of Medicine in Mostar, BiH<br>- Visiting professor - Postgraduate study in Biomedicine, School of Medicine in Rijeka, Croatia<br><br>- *Teacher at Courses of Permanent Medical Education* |
| Authorship of university textbooks from the field of the course | Saraga-Babić M., Švajger A., Sapunar D., Pintarić I., Anđelinović Š., Saraga M.: Development and congenital kidney diseases", School of Medicine, University of Zagreb, 1992<br>Banović I, Peruzović M., Saraga-Babić M., Sapunar D.: Fertilization, School of Medicine, University of Zagreb, 1992<br>Saraga-Babić M: Respiratory system. In Junqueira LC, Carneiro J. and Kelly RO. Basic Histology (Croatian edition), pp.338-358 (7th edition), Školska knjiga, Zagreb, 1995<br>Saraga-Babić M.: Adrenals, Islets of Langerhans, Thyroid, the Parathyroid glands, the Pineal body. In Junqueira LC, Carneiro J. and Kelly RO. Basic Histology (Croatian edition), pp.305-424 (7th edition), Školska knjiga, Zagreb, 1995.<br>Saraga-Babić M: With game through anatomy 5 Embryology, Sobotta: Atlas of Anatomy- cards for learning. (Croatian edition), Naklada Slap, Jastrebarsko, 2002.<br>Mirna Saraga-Babić et al. "Human Embryology and Histology", University of Split, 2015.<br>Saraga- Babić M, Sapunar D "Atlas of Human Embryology", Chronolab, Chrono Educa, 1996<br>Sapunar D., Saraga-BabićM "Atlas of Histology", School of Medicine, University of Split, 2008 |
| Professional and research papers published in the last five years from the field of the course **(max 5 references)** | Punda H, Mardesic S, Filipovic N, Kosovic I, Benzon B, Ogorevc M, Bocina I, Kolic K, Vukojevic K, Saraga-Babic M**. Expression Pattern of 5-HT (Serotonin) Receptors during Normal Development of the Human Spinal Cord and Ganglia and in Fetus with Cervical Spina Bifida.** International Journal of Molecular Sciences, 22(14):7320-, 2021<br><br>Ivona Kosovic, Natalija Filipovic, Benjamin Benzon, Katarina Vukojevic, Marijan Saraga, Merica Glavina Durdov, Ivana Bocina, Mirna Saraga-Babic **Spatio-temporal patterning of different connexins regulates normal human kidney development and CNF,** Scientific Reports, 10(1):8756-, 2020.<br><br>Ivona Kosovic , Natalija Filipovic, Benjamin Benzon, Ivana Bocina, Merica Glavina Durdov, Katarina Vukojevic, Marijan Saraga and Mirna Saraga-Babic. **Connexin signaling in juxtaglomerular apparatus (JGA) of developing, postnatal healthy and nephrotic human kidneys,** International Journal of Molecular Sciences, 21(21):8349-, 2020.<br><br>Katarina Vukojevica, Fila Raguz, Marijan Saraga, Natalija Filipovica, Ivana Bocina,Darko Kero, Merica Glavina Durdov, Vlatka Martinovic, Mirna Saraga-Babica **Glomeruli from patients with** |

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| | **nephrin mutations show increased number of ciliated and poorly differentiated podocytes.** Acta Histochemica, 120(8): 748-756, 2018.<br><br>Natalija Filipovic1 · Katarina Vukojevic1 · Ivana Bocina2 · Marijan Saraga3 ·Merica Glavina Durdov4 · Boris Kablar5 · Mirna Saraga-Babic1 **Immunohistochemical and electronmicroscopic features of mesenchymal-to-epithelial transition in human developing, postnatal and nephrotic podocytes.** Histochemistry and Cell Biology, 147(4):481-495, 2017. |
| Professional and research papers In methodology and quality of teaching published in the last five years (**max 5 references**) | |
| Professional and research projects from the field of the course carried out in the last five years (**max 5 references**) | Gene expression in early human development, MZOS, Republic of Croatia, no. 216-2160528-0507<br><br>Characterization of candidate genes in congenital anomalies of the kidney and urinary system (CAKUT) during mouse and human development (2018-2022) |
| Within which program and to what extent did the course teacher acquire methodological, psychological, didactic and pedagogical competencies? | |
| PRIZES AND AWARDS | |
| Prizes and awards for teaching and research | Award for science, University of Split, 2017. |

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| First and last name and title of teacher | **Davorka Sutlovic, Full professor with tenure** |
| The course he/she teaches in the proposed study programme | General Chemistry and stoichiometry<br>Analytical Chemistry<br>Organic Chemistry<br>Instrumental techniques in MLD<br>Food toxicology<br>Introduction to scientific work |
| GENERAL INFORMATION ON COURSE TEACHER | |
| E-mail address | dsutlovic@ozs.unist.hr |
| Personal web page | http://ozs.unist.hr/o-odjelu/ustroj-odjela/uprava/pomocnik-procelnika-odjela-za-nastavu |
| Year of birth | 1961. |
| Scientist ID | 256403 |
| Research or art rank, and date of last rank appointment | Scientific advisor with tenure; 2019. |
| Research-and-teaching, art-and-teaching or teaching rank, and date of last rank appointment | Full professor with tenure 2020. |
| Area and field of election into research or art rank | Biomedicine and health- Basic medical sciences<br>Interdisciplinary sciences - Basic medical sciences/pharmacy |
| INFORMATION ON CURRENT EMPLOYMENT | |
| Institution where employed | University of Split -University department of health studies / Medical School Split |
| Date of employment | 2019. /2008. |
| Name of position (professor, researcher, associate teacher, etc.) | Full professor with tenure |
| Field of research | chemistry and instrumental tehniques |
| Function | Head of the Department of Basic medical sciences; Assistant to the Head of Department for Education |
| INFORMATION ON EDUCATION – Highest degree earned | |
| Degree | Ph.D. |
| Institution | UNIVERSITY OF SPLIT- SCHOOL OF MEDICINE |
| Place | SPLIT |
| Date | 2005 |
| INFORMATION ON ADDITIONAL TRAINING | |
| Year | 2018; 2015; 2011; 2007; 2005; 2005; 2005; 2004; 2004; 1998; |
| Place | *Slovenia-Otočec; Italy-Florence; Italy, Pavia and Verona; Greek-Athens; ZAGREB; Germany – Duisburg; ZAGREB; Plitvice; Germany - Darmstadth; PULA ;* |
| Institution | European Societies of Toxicology ; Forensic Toxicology Unit, Department of Health Science, University of Florence; Clinical Hospital; Medical School; Medical School- Department of forensic science and criminology; Shimadzu; Center for Criminalistic Investigation " Ivan Vučetić"; European Societies of Toxicology; Applied Biosystems; European Societies of Toxicology; |
| Field of training | Specialized toxicology course - Regulatory toxicology; Toxicology; Clinical toxicology; Forensic toxicology; Forensic toxicology; Toxicology; Forensic toxicology; Toxicology; Toxicology; Toxicology |
| MOTHER TONGUE AND FOREIGN LANGUAGES | |
| Mother tongue | Croatian |
| Foreign language and command of foreign language on a scale from 2 (sufficient) to 5 (excellent) | English (3) |
| COMPETENCES FOR THE COURSE | |

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| 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. UNDERGRADUATE AND GRADUATE**: ON MEDICINE STUDY<br>from 2000. - Forensic science<br>from 2007. - Small dose of toxicology<br>from 2007. - Drugs Abuse in sport<br><br>2. **UNDERGRADUATE AND GRADUATE**: STUDY OF PHARMACY<br>from 2011. - Forensic pharmacy<br>from 2011. - Pharmaceutical toxicology<br><br>3. **UNDERGRADUATE AND GRADUATE**: STUDY OF MEDICAL LABORATORY DIAGNOSTICS<br><br>from 2012. - INSTRUMENTAL TECHNIQUES IN MLD<br>from 2012. - Food Toxicology<br>from 2019. - General chemistry and stoichiometry<br>from 2019. - Analytical chemistry<br>from 2019. - Organic chemistry<br>from 2019. - Introduction to scientific work<br><br>4. **GRADUATE**: STUDY FOR FORENSIC SCIENCES<br>from 2010. -2017. Forensic chemistry and toxicology I<br>from 2010. -2017. Forensic chemistry and toxicology II<br>from 2010. - 2017. Applied forensic toxicology<br>from 2010. - 2017. Food Toxicology<br><br>5. **POSTGRADUATE STUDY:**<br>5.1.ON MEDICAL SCHOOL SPLIT<br>from 2007. - Biochemical mechanisms of toxicity<br>5.2.ON LAW SCHOOL SPLIT - STUDY OF MEDICAL LAW<br>from 2007. - Forensic medicine<br>from 2007. - CSI Split - Medical criminology<br><br>5.3. ON PHARMACEUTICAL AND BIOCHEMISTRY SCHOOL OF ZAGREB STUDY OF TOXICOLOGY<br>from 2011. - Forensic toxicology in human medicine |
| Authorship of university/faculty textbooks in the field of the course | 1. SutloviC Davorka, et al. Fundamentals of Forensic Toxicology. Split: Redak; 2011.<br>2. Sutlovic Davorka, et al. Food Toxicology. Split: Redak; 2011.<br>3. Sutlović Davorka. Basics of chemistry, forensics manual for students. Split: Redak; 2013.<br>4. Kovačić, Zdravko; Nestić, Marina; Sutlović, Davorka. Forensic toxicology // Forensic medicine and deontology/ Mayer, Davor (ur.). Zagreb: Medicinska naklada, 2018. 153-201. |
| Professional, scholarly and artistic articles published in the last five years in the field of the course (5 works at most) | 1. Sutlović, Davorka; Kuret, Sendi; Definis, Marija<br>New psychoactive and classic substances in pooled urine samples collected at the Ultra Europe festival in Split, Croatia *// Arhiv za higijenu rada i toksikologiju,* **72** (2021), 3; 198-204 doi:10.2478/aiht-2021-72-3509 (međunarodna recenzija, članak, znanstveni)<br>2. Nedoklan, Srđan; Knezović, Zlatka; Knezović, Nina; Sutlović, Davorka<br>Nutrition and mineral content in human teeth through THE CENTURIES *// Archives of oral biology,* **124** (2021), 105075, 8 doi:.org/10.1016/j.archoralbio.2021.105075 (međunarodna recenzija, članak, znanstveni) |

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| | 3. Sutlović, Davorka; Ključević, Željko; Kuret, Sendi ABCB1, CYP2B6, and CYP3A4 genetic polymorphisms do not affect methadone maintenance treatment in HCV-positive patients // *Arhiv za higijenu rada i toksikologiju,* **71** (2020), 4; 353-358 doi:10.2478/aiht-2020-71-3378 (međunarodna recenzija, članak, znanstveni)<br>4. Patrician, Alexander; Versic-Bratincevic, Maja; Mijacika, Tanja; Banic; Ivana; Marendic, Mario; Sutlović, Davorka; Dujić, Željko; Ainslie, Philip N. Examination of a New Delivery Approach for Oral Cannabidiol in Healthy Subjects: A Randomized, Double-Blinded, Placebo-Controlled Pharmacokinetics Study. // *Advances in therapy,* **36** (2019), 11; 3196-3210 doi:10.1007/s12325-019-01074-6 (međunarodna recenzija, članak, znanstveni)<br>5. Ključević, Željko; Benzon, Benjamin; Ključević, Nikola; Veršić Bratinčević, Maja; Sutlović, Davorka Liver damage indices as a tool for modifying methadone maintenance treatment: a cross-sectional study // *Croatian medical journal,* **59** (2018), 298-306 (međunarodna recenzija, članak |
| Professional and scholarly articles published in the last five years in subjects of teaching methodology and teaching quality (5 works at most) | |
| Professional, science and artistic projects in the field of the course carried out in the last five years (5 at most) | 1. 2007. - Heavy metals in human remains from Klis and Bribir ancient county; LEADER; FUNDING SOURCE - MINISTRY OF SCIENCE, EDUCATION AND SPORTS<br>2. 2007. - Cardiovascular effects of wine and its constituents; RESEARCHER -FUNDING SOURCE - MINISTRY OF SCIENCE, EDUCATION AND SPORTS<br>3. Co-leader of the European project "I-SEE European project on New Psychoactive Substance" (2015-2017)<br>4. Head of the scientific research project of the Government of the Republic of Croatia "Intoxication with new psychoactive substances - treatment protocol" (2017)<br>5. Head of the scientific research project of the Government of the Republic of Croatia "Monitoring of intoxications with new psychoactive substances by analysis of urine samples" (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?-pedagoške kompetencije? | Mandatory education at the Medical Faculty Split<br>Tempus Project Training of Trainers in Vienna (2x), Pécs and Zagreb |
| 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) | |