



**Course: Oral Epidemiology and Public Health**

**Course Coordinator: Professor Stjepan Špalj**

**Course Collaborators: Matea Badnjević, DMD, Matea Tomljanović, DMD**

**Department: Department of Orthodontics**

**Study program: University Integrated Undergraduate and Graduate Study of Dental Medicine**  
(in English)

**Study year: 4th**

**Academic year: 2026. /27.**

## SYLLABUS

**Course description (a brief description of the course, general instructions, where and in what form the lessons are organized, necessary equipment, instructions for attendance and preparation for classes, student obligations, etc.):**

This compulsory course consists of 15 hours of lectures and 5 hours of practicals and 10 hours of seminars, a total of 30 hours (2 ECTS). The course is conducted in hybrid form – on site and on line by using the Merlin and Teams platform.

**The aim** of the course is to familiarize students with the concepts of oral epidemiology, public health, oral health policy and economics.

**The content** of the course is as follows:

Scope of public health and oral epidemiology

Morbidity and epidemiological indicators of oral diseases, conditions and health

Biopsychosocial model of disease - health, disease and quality of life

Public health interventions

Oral care of specific population groups

Planning dental public health interventions and promotion of oral health

Oral health policy, planning and financing of public dental care

**Teaching:**

Teaching is conducted in the form of lectures and practicals in the rotation during the 7th semester. At the end is the final exam. By completing all teaching activities, presenting the public health topic/project and taking the final exam, 2 ECTS points are gained.

### **Assigned reading:**

1. Pine C, Harris R. Community oral health. Berlin: Quintessenz; 2007.
2. Burt BA, Eklund SA. Dentistry, dental practice, and the community. 7th ed. St. Louis: Saunders; 2020.

### **Optional/additional reading:**

1. Peres MA, Antunes JLF, Watt RG. Oral epidemiology. A textbook on oral health conditions, research topics and methods. Cham: Springer; 2021.
2. Chattopadhyay A. Oral health epidemiology: principles and practice. Burlington: Jones and Bartlett Publishers; 2011.



## **COURSE TEACHING PLAN:**

### **The list of lectures (with topics and descriptions):**

#### **L1. Scope of public health**

##### Learning outcomes:

- Discuss the scope of public health and the principles of oral epidemiology
- Analyze epidemiological terms

#### **L2. Oral health, disease and quality of life: definition of terms.**

##### Learning outcomes:

- Discuss the terms health, disease and quality of life
- Differentiate the biomedical and biopsychosocial model of the disease

#### **L3. Epidemiological methods in research**

##### Learning outcomes:

- Analyze the differences between observational, analytical and experimental methods

#### **L4. Evidence-based health care**

##### Learning outcomes:

- Discuss the concept of health care based on scientific evidence and facts
- Discuss the power pyramid of scientific research

#### **L5. Indicators of oral diseases, conditions, health and treatment need**

##### Learning outcomes:

- Analyze indices for the assessment of morbidity
- Calculate the DMFT index
- Apply the method of calculating the Full Mouth Plaque Score
- Calculate the Full Mouth Bleeding Score
- Use the index to analyze the condition and assess the need for therapy.

#### **L6. Screening**

##### Learning outcomes:

- Discuss ways of early disease detection
- Explain ways of evaluating the accuracy of screening
- Valorize the advantages and disadvantages of screening.

#### **L7. Public health anti-epidemic measures**

##### Learning outcomes:

- Discuss anti-epidemic measures using the example of the disease COVID-19
- Implement anti-epidemic measures (according to the source of infection, ways of spreading, according to people at risk)
- Valorize the benefits and risks of vaccination.

#### **L8. Oral health risk behaviors**

##### Learning outcomes:

- Analyze the impact of lifestyle on oral diseases, conditions and health
- Explain the connection between nutrition and oral diseases
- Discuss the connection between alcohol and tobacco consumption and oral diseases
- Analyze the connection between parafunctions and oral diseases

#### **L9. Public health interventions in dental medicine**

##### Learning outcomes:

- Discuss the way of planning dental public health interventions
- Analyze the possibilities and limitations of dental public health interventions by target population groups

#### **L10. Health literacy**



Learning outcomes:

- Discuss the relationship between the health literacy and public health

**L11. National programs for the promotion of oral health**

Learning outcomes:

- Describe the pyramid of measures to promote oral health
- Analyze public health measures in European countries and Croatia

**L12. Health policy and legislation**

Learning outcomes:

- Analyze the relationship between public and private interest
- Classify the organization of the health system
- Analyze legal health regulations

**L13. Health economics and financing of public dental care**

Learning outcomes:

- Discuss ways of financing health spending
- Differentiate payment methods in healthcare
- Analyze the "basket of services" in the dental public health service

**L14. Social context – inequalities in oral health**

Learning outcomes:

- Discuss social inequalities and inequalities in oral health

**L15. Classification systems in healthcare**

Learning outcomes:

- Discuss the principles of the International Classification of Diseases and Conditions

**The list of seminars with descriptions:**

**S1-10.** Epidemiology of oral diseases and the public health aspect of dentistry

**The list of practicals with descriptions:**

During the practicals, students measure and calculate indicators of oral diseases, health and quality of life, plan, present and discuss a public health topic/project.

**Students' obligations:**

Students are obliged to regularly attend and actively participate in all forms of classes. A maximum of 30% of classes can be missed with justification. The presentation of the public health topic / project and the final exam are mandatory.

**Assessment (exams, description of written / oral / practical exam, the scoring criteria):**

**ECTS credit grading system:**

Student assessment is carried out according to the current Regulations on Studies of the University of Rijeka.

Student work will be evaluated and graded during classes and at the final exam. Out of a total of 100 grade points, a student can achieve 50 points during classes and another 50 points on the exam.

Student assessment is performed using ECTS (A-F) and number system (5-1). Grading in the ECTS system is performed by absolute distribution.

Students who gain from 0 to 24.9% of grades that could be obtained during classes through forms of continuous monitoring and evaluation of students are graded F (unsuccessful), can not gain ECTS credits and must re-enroll the course.

The student gains grades by actively participating in classes and performing the set tasks.



**During the classes, the public health topic/project is evaluated (maximum up to 50 points):**

The grade of the presented topic/project carries 50 grade points (passing grades in the range of 25-50), and is converted into grade points as follows:

| grade | scalar points |
|-------|---------------|
| 2     | 25            |
| 2-3   | 29            |
| 3     | 33            |
| 3-4   | 37            |
| 4     | 42            |
| 4-5   | 46            |
| 5     | 50            |

**Final exam (total 50 points)**

Who can take the final exam:

Students who achieved 25% and more grade points during classes through forms of continuous monitoring and evaluation of students.

Who cannot take the final exam:

Students who achieved from 0 to 24,9% of grades during classes are graded F (unsuccessful), can not gain ECTS credits and must re-enroll the course.

The final exam is written (it can be in a form of multiple answers questions or answers in essay form), carries 50 grade points (passing grades ranging from 25-50). In the case of multiple answers questions ratio of correct answers is multiplied by a weight of 0.5. The limiter is 50%. When having test in essay form grade is converted in scalar points in this manner:

| grade | scalar points |
|-------|---------------|
| 2     | 25            |
| 2-3   | 29            |
| 3     | 33            |
| 3-4   | 37            |
| 4     | 42            |
| 4-5   | 46            |
| 5     | 50            |

To pass the final exam and for the final grade (including summing previously achieved grade points during classes), the student must have a positive grade in the final exam and achieve a minimum of 25 grade points (50%).

Assessment in the ECTS system is performed by absolute distribution, ie on the basis of the final achievement:

A – 90-100% points

B – 75-89,9 %

C – 60-74,9 %

D -- 50-59,9%

F – 0-49,9%

Grades in the ECTS system are transformed into a numerical system as follows:

A = excellent (5)

B = very good (4)

C = good (3)

D = sufficient (2)

F = unsufficient (1)



**Other important information regarding to the course:**

Teaching contents and all information related to the course can be found on the e-course on the Merlin platform. Any use of someone else's text or other form of author's work, as well as the use of ChatGPT or any other tool whose functionality is based on artificial intelligence technology, without clear and unambiguous indication of the source, is considered a violation of someone else's copyright and the principle of academic integrity, and represents a serious violation of student rights. an obligation that entails disciplinary responsibility and disciplinary measures in accordance with the Rulebook on Student Disciplinary Responsibility. The seminar paper can be presented a maximum of two times; after that, it must be presented before a committee. If, after the third presentation, the presentation is still not satisfactory, the student loses the right to take the exam for that academic year.

Consultation time: Professor Špalj: Friday 9-10 a.m

Matea Badnjević: Tuesday 1-2 p.m.

Matea Tomljanović: Monday 1-2 p.m.

**COURSE SCHEDULE (for the academic year 2026/2027)**

| Date        | Lectures<br>(time and place)       | Seminars<br>(time and place) | Practicals<br>(time and place)        | Instructor                |
|-------------|------------------------------------|------------------------------|---------------------------------------|---------------------------|
| 25.11.2026. | L1 (14.45-15.30)                   |                              |                                       | Professor Stjepan Spalj   |
|             | L2 (15.30-16.15)                   |                              |                                       |                           |
|             | L3 (16.15-17.00)                   |                              |                                       |                           |
|             | L4 (17.00-17.45)                   |                              |                                       |                           |
|             | On-line asynchronous               |                              |                                       |                           |
| 02.12.2026. |                                    |                              | P1 DE (14.45-15.30)                   | Matea Badnjevic,<br>DMD   |
|             |                                    |                              | P2 DE (15.30-16.15)                   | Matea Tomljanovic, DMD    |
|             |                                    |                              | P3 DE (16.15-17.00)                   |                           |
|             |                                    |                              | P4 DE (17.00-17.45)<br>Krešimirova 42 |                           |
| 09.12.2026. |                                    |                              | P5 DE (14.45-15.30)<br>Krešimirova 42 | Matea Tomljanovic,<br>DMD |
|             | L5 (15.30-16.15)                   |                              |                                       | Professor Stjepan Spalj   |
|             | L6 (16.15-17.00)                   |                              |                                       |                           |
|             | L7 (17.00-17.45)<br>Kresimirova 42 |                              |                                       |                           |



|             |                      |                                     |  |                         |
|-------------|----------------------|-------------------------------------|--|-------------------------|
| 16.12.2026. | L8 (14.45-15.30)     |                                     |  | Professor Stjepan Špalj |
|             | L9 (15.30-16.15)     |                                     |  |                         |
|             | Krešimirova 42       | S1 (16.15-17.00)                    |  |                         |
|             |                      | S2 (17.00-17.45)<br>Krešimirova 42  |  |                         |
| 23.12.2025. |                      | S3 (14.45-15.30)                    |  | Professor Stjepan Špalj |
|             |                      | S4 (15.30-16.15)                    |  |                         |
|             |                      | S5 (16.15-17.00)                    |  |                         |
|             |                      | S6 (17.00-17.45)<br>Krešimirova 42  |  |                         |
| 13.01.2027. | L10 (14.45-15.30)    |                                     |  | Professor Stjepan Špalj |
|             | L11 (15.30-16.15)    |                                     |  |                         |
|             | L12 (16.15-17.00)    |                                     |  |                         |
|             | L13 (17.00-17.45)    |                                     |  |                         |
|             | On-line asynchronous |                                     |  |                         |
| 20.01.2027. | L14 (16.15-17.00)    |                                     |  | Professor Stjepan Špalj |
|             | L15 (17.00-17.45)    |                                     |  |                         |
|             | Krešimirova 42       | S7 (16.15-17.00)                    |  |                         |
|             |                      | S8 (17.00-17.45)<br>Krešimirova 42  |  |                         |
| 27.01.2027. |                      | S9 (14.45-15.30)                    |  | Professor Stjepan Špalj |
|             |                      | S10 (15.30-16.15)<br>Krešimirova 42 |  |                         |

**List of lectures, seminars and practicals:**

|    | LECTURES (Topics)                                                  | Teaching hours | Location/Lecture room |
|----|--------------------------------------------------------------------|----------------|-----------------------|
| P1 | Scope of public health                                             | 1              | Krešimirova 42        |
| P2 | Oral health, disease and quality of life: definition of terms      | 1              | Krešimirova 42        |
| P3 | Epidemiological methods in research                                | 1              | Krešimirova 42        |
| P4 | Evidence-based health care                                         | 1              | Krešimirova 42        |
| P5 | Indicators of oral diseases, conditions, health and treatment need | 1              | Krešimirova 42        |
| P6 | Screening                                                          | 1              | Krešimirova 42        |
| P7 | Public health anti-epidemic measures                               | 1              | Krešimirova 42        |
| P8 | Oral health risk behaviors                                         | 1              | Krešimirova 42        |



|                             |                                                      |   |                |
|-----------------------------|------------------------------------------------------|---|----------------|
| P9                          | Public health interventions in dental medicine       | 1 | Krešimirova 42 |
| P10                         | Health literacy                                      | 1 | Krešimirova 42 |
| P11                         | National programs for the promotion of oral health   | 1 | Krešimirova 42 |
| P12                         | Oral health policy and legislation                   | 1 | Krešimirova 42 |
| P13                         | Health economics and financing of public dental care | 1 | Krešimirova 42 |
| P14                         | Social context – inequalities in oral health         | 1 | Krešimirova 42 |
| P15                         | Classification systems in healthcare                 | 1 | Krešimirova 42 |
| <b>TOTAL TEACHING HOURS</b> |                                                      |   |                |

|                             | <b>SEMINARS (Topics)</b>                                           | <b>Teaching hours</b> | <b>Location/Lecture room</b> |
|-----------------------------|--------------------------------------------------------------------|-----------------------|------------------------------|
| S1-10                       | Seminars on epidemiology of oral diseases and public health topics | 10                    | Krešimirova 42               |
| <b>TOTAL TEACHING HOURS</b> |                                                                    | <b>10</b>             |                              |

|                             | <b>PRACTICALS (Topics)</b>                                                                                                                                                                                                                                                                                                                                                                              | <b>Teaching hours</b> | <b>Location/Lecture room</b> |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------|
| V1-5                        | Coding of diseases and conditions according to the 10th revision of the International Classification of Diseases and Conditions<br>Calculation of caries prevalence and severity (DMFT index)<br>Calculation of the degree of oral hygiene (Full Mouth Plaque Score)<br>Calculation of the extent of gingivitis (Full Mouth Bleeding Score)<br>Calculation of the prevalence and severity of edentulism | 5                     | Krešimirova 42               |
| <b>TOTAL TEACHING HOURS</b> |                                                                                                                                                                                                                                                                                                                                                                                                         | 5                     |                              |

|    | <b>FINAL EXAM DATES</b> |
|----|-------------------------|
| 1. | 29.01.2027.             |
| 2. | 19.02.2027.             |
| 3. | 19.03.2027.             |
| 4. | 23.04.2027.             |



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|              | <b>Lectures</b> | <b>Seminars</b> | <b>Practicals</b> | <b>Total</b> |
|--------------|-----------------|-----------------|-------------------|--------------|
| Total number | 15              | 10              | 5                 | 30           |
| On-line      | 8               |                 |                   | 8            |
| Percentage   | 53%             |                 |                   | 27%          |