Sveučilište u Rijeci
University of Rijeka

Sveučilište u Rijeci • Fakultet dentalne medicine
University of Rijeka • Faculty of Dental Medicine
*Krešimirova 40/42 • 51000 Rijeka • CROATIA*
*Phone : + 385 51 559 200; 559 202, 559 203*

**Study year: 2 Course: Tooth morphology with dental antropology**
**Course Coordinator: Prof.prom.Nataša Ivančić Jokić, PhD, DDM**
**Course Collaborators: Odri Cicvarić, PhD**

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

**Academic year: 2025./26.**

# 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 course unites and studies anatomical and morphological details of all teeth of primary and permanent dentition, it also studies their mutual connection and connection of other anatomical structures inside the oral cavity, also known as orofacial system. Other than morphological details it also includes physiological role of teeth, jaw and oral cavity as an entrance to digestive system. Phylogenetic development of teeth, dental tissues and tooth integument is also being studied as a part of dental anthropology.

During the lectures students are going to be introduced to anatomical classification of oral cavity and soft tissues, teeth and bones along with their role in phonation (pronunciation of sounds), mastication (chewing), digestion and deglutation of food (swallowing food) and physionomy of the face. Students will learn about dental nomenclature and marking surfaces of some teeth. Anatomy of teeth and histology of dental tissues are making the main part of theoretical and practical lectures. They will be introduced to morphology of teeth and dental arches of primary and permanent dentition, they'll also learn about characteristcs of upper and lower incisors, canines, premolars and molars; orientational surfaces and curves in oral cavity and face, and connection between teeth in physiological contact (occlusion, articulation); group of muscles that are participating in opening and closing of the mouth; parts of jaw articulation and basic movements of mandibula in three dimension. Teeth anomalies (anomalies in number, shape, structure, dental lining, teething) and intermaxillary connections; phylogenetic development of teeth and jaw; basic characteristics of protohuman from Krapina with special review about teeth and theories about origin of teeth along with basic terms about animal teeth will be talked about during one part of lectures in dental anthropology.

This course is made of lectures and preclinical practice. Lectures are being held on Merlin, the system for e-learning. Practicals are being held in preclinical practice room at Study of dental medicine on the third floor in Krešimirova 42.

During manual practice students will have to draw and make (out of plasticine, gypsum or similar mass) teeth for the purpose of better understanding the morphological shapes of teeth by functional groups.

The student must have accessories consisting of: a graph paper, a pencil, a dental carving knife, soap and

clay.
More detailed information on accessories will be provided by the assistants in the introductory exercises.

**Assigned reading:**

1. Nelson SJ. Wheeler's Dental Anatomy, Physiology, & Occlusion. Tenth edition. Elsevier Saunders 2015.
2. Rashmi GS. Textbook of Dental Anatomy, Physiology & Occlusion. Jaypee 2014.
3. Fehrenbach MJ, Popowics T. Illustrated Dental Embyology, Histology, and Anatomy. 4th edition. Elsevier Saunders 2016.
4. Texts from lectures

**Optional/additional reading:**

1. Brkić H, Dumančić J, Vodanović M. Biologija i morfologija ljudskih zuba. Naklada Slap, Zagreb, 2016.
2. Hraste J. Dentalna morfologija, Sveučilište u Rijeci, Medicinski fakultet, Rijeka 1984.
3. Šutalo J i sur. Patologija i terapija tvrdih zubnih tkiva, Naklada Zadro, Zagreb, 1994.
4. Tomić-Solar N. Morfologija zubi. Medicinska naklada, Zagreb. 2003.

**COURSE TEACHING PLAN:**

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

P1 Term and importance of dental morphology, Methods of work in dental morphology
Outcomes of learning:
Define dental morphology and methods of work in dental morphology.

P2 Topographic- anatomical marks on teeth
Outcomes of learning:
Describe and differentiate topographic- anatomical marks that are being used in everyday orientation and work on teeth.

P3 Nomenclature and areas in dental morphology, orientational surfaces in mouth.
Outcomes of learning:
Describe and differentiate names that are used for orientational surfaces on teeth and for orientation inside oral cavity.
P4 Surfaces, edges and angles on crown of tooth
Outcomes of learning:
Describe morphological characteristcs of every part of tooth.

P5 Anatomical characteristic of teeth
Outcomes of learning:
Describe anatomical characteristics of every part of tooth.

P6 Morphological- anatomical characteristics of anterior teeth, morphological-anatomical characteristics of posterior teeth.
Outcomes of learning:
Describe anatomical characteristics of every part of tooth.

P7 Morphology of upper and lower dental row.

Outcomes of learning:
Describe and define the lining of individual teeth and their relation to each other in dental arch.

P8 Occlusion and types of occlusal positions
Outcomes of learning:
Describe relations between superior and inferior dental arch.

P9 Anatomy of oral cavity
Outcomes of learning:
Describe all anatomical structures of oral cavity, bones and cranial muscles.

P10 Physiology of oral cavity
Outcomes of learning:
Describe and explain physiological processes that happen inside oral cavity.

P11 Stomatognathic system, Binomial
Outcomes of learning:
Describe and explain relations between teeth, occlusion and temporomandibular joint.

P12 Motions of mandibule, Occlusal motions
Outcomes of learning:
Explain the motions of mandibule and influence on interocclusal relations.
P13 Dental anthropology
Outcomes of learning:
Define terms and importance of dental anthropology.

P14 Theories about origin of teeth
Outcomes of learning:
Describe the theories about origin of teeth through evolutionary processes.

P15 Hominids
Outcomes of learning:
Describe development of stomatognathic system through evolution of human.

Lectures are put on the system for e-learning MERLIN.

**The list of seminars with descriptions:**

**The list of practicals with descriptions:**

On practicals students are introduced to morphological characteristcs of teeth through modeling and drawing of all teeth and they are gaining the knowledge that is necessary for recognition of all teeth in oral cavity. Moreover, they are developing motor skills necessary for further continuation of their work in other preclinical and clinical practice that are being held at the Study of dental medicine.

**Students' obligations:**

**All forms of teaching are required, and accordingly will be carried out verification of the presence of students in lectures and exercises. Only be justified absences due to illness or similar reason, in the framework of permissible regulations on the study, to be eligible. Student must actively participate in all forms of teaching.**

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

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Students evaluation and assessment is provided during classes and at the final exam.
According to the regulations on studies at the University of Rijeka, a student must achieve at least 50% of the grade during classes in order to be able to take the final exam. The final grade represents the sum of grade points achieved during classes and at the final exam.

Exercises
Assess: theoretical knowledge on the topic of each exercise, precision, shape (3D code modeling), neatness, shape of the tooth surface and topographic-anatomical signs on sketches or modeled teeth.

1- no theoretical knowledge, very inaccurate, messy, sketch or model that does not match the shape of the given tooth
2- sufficient theoretical knowledge, imprecise, somewhat neat, shapes and contours of a given tooth are recognized
3- good theoretical knowledge, precise, neat, well recognized shapes and contours of a given tooth
4- very good theoretical knowledge, very precise and orderly, very well recognized shapes and contours of a given tooth
5- excellent theoretical knowledge, extremely precise and orderly work, extremely well recognized shapes and contours of a given tooth

Score points are awarded as follows according to the final average grade from all exercises:
2 → 5 points
2,5 → 8 points
3 → 10 points
3,5 → 13 points
4 → 16 points
4,5 → 18 points
5 → 20 points

If there is a discrepancy between the grades from the theoretical knowledge and the final success of the work (modeling, drawing) on the exercises, the average of the two grades is taken.

Colloquium of the morphology of teeth:
The colloquium consists of three parts: a written test, the recognition of native teeth and Latin names.
To pass the colloquium, 50% of each part is required.

-Written test consist 24 questions with one or more correct answers. Every correct answers – 1 point.
Incomplete or incorrect answers are not recognized.
To pass the colloquium, 50% of the test solution is required.

Maximal score is 24 points.

-Recognition of teeth:
9 native human teeth
Assessed at 4 terms, each with 0.5 points
a) The Latin name of the tooth
b) The Croatian name of the tooth
c) Designation of teeth in two ways the FDI-Zsigmondy Lautrou-Palmer

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d) A description of a given tooth

Maximal score is 18 points.

Latin names:
40 Latin name morphological anatomical details that read with 4 photos;
1 exact name carries 0.2 points.

Maximal score is 8 points

In order to be able to take the final exam, the student must complete the exercises and pass all parts of the colloquium.

Final written exame:
30 questions from lectures and recommended literature.
Every correct answers – 1 point.
Incomplete or incorrect answers are not recognized.
To pass the exam, 50% resolution is required.

Achieved points in colloquia and exercises are added to the points from the exam

Final score :

0-49.9 % insufficient 1 F
50-59.9% enough 2 D
60-74.9% good 3C
75-89.9% very good4 B
90-100% excellent 5 A.

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

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## COURSE SCHEDULE (for the academic year 2025/2026)

| Date | Lectures (time and place) | Seminars (time and place) | Practicals (time and place) | Instructor |
|---|---|---|---|---|
| 16.10.2025. | L 1-3<br>14.00-18.30 (6) | | | Prof.prim. Nataša Ivančić Jokić, PhD,DDM |
| 17.10.2025. | | | P 1-2<br>10.00-13.00 (4) | Odri Cicvarić, PhD, DDM |
| 21.10.2025. | L 4-6<br>8.00-12.30 (6) | | | Prof.prim. Nataša Ivančić Jokić, PhD,DDM |
| 22.10.2025. | | | P 3-4<br>12.30-15.30 (4) | Odri Cicvarić, PhD, DDM |
| 23.10.2025. | | | P 5-6<br>15.30-18.30 (4) | Odri Cicvarić, PhD, DDM |
| 24.10.2025. | | | P 7-8<br>10.00-13.00 (4) | Odri Cicvarić, PhD, DDM |
| 28.10.2025. | L 7-9<br>8.00-12.30 (6) | | | Prof.prim. Nataša Ivančić Jokić, PhD,DDM |
| 29.10.2025. | | | P9-10<br>12.30-17.00 (6) | Odri Cicvarić, PhD, DDM |
| 30.10.2025. | | | P11-12<br>15.30-18.30 (4) | Odri Cicvarić, PhD, DDM |
| 31.11.2025. | | | P13-14<br>10.00-14.30 (6) | Odri Cicvarić, PhD, DDM |
| 04.11.2025. | L 10-12<br>8.00-12.30 (6) | | | Prof.prim. Nataša Ivančić Jokić, PhD,DDM |
| 05.11.2025. | | | P15-16<br>12:30–17:00 (6) | Odri Cicvarić, PhD, DDM |
| 06.11.2025. | | | P17-18<br>15:30–20:00 (6) | Odri Cicvarić, PhD, DDM |
| 11.11.2025. | L 13-15<br>8.00-12.30 (6) | | | Prof.prim. Nataša Ivančić Jokić, PhD,DDM |
| 12.11.2025. | | | P19-20<br>12:30-15:30 (4) | Odri Cicvarić, PhD, DDM |
| 13.11.2025. | | | P21-22<br>18:30-20:00 (6) | Odri Cicvarić, PhD, DDM |
| 14.11.2025. | | | P23-24<br>10:00-13:45 (5) | Odri Cicvarić, PhD, DDM |
| 19.11.2025. | | | P25-26<br>12:30-16:15 (5) | Odri Cicvarić, PhD, DDM |
| 20.11.2025. | | | P27-28<br>15:30-18:00 (6) | Odri Cicvarić, PhD, DDM |
| 21.11.2025. | | | P29-30<br>10:00-13:45 (5) | Odri Cicvarić, PhD, DDM |

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

| | LECTURES (Topics) | Teaching hours | Location/Lecture room |
|---|---|---|---|
| L1 | Term and importance of dental morphology<br>Methods of work in dental morphology | 2 | Krešimirova 42 |
| L2 | Topographic- anatomical marks on teeth | 2 | Krešimirova 42 |
| L3 | Nomenclature and areas in dental morphology<br>Orientational surfaces in mouth | 2 | Krešimirova 42 |
| L4 | Surfaces, edges and angles on crown of teeth | 2 | Krešimirova 42 |
| L5 | Anatomical characteristcs of teeth | 2 | Krešimirova 42 |
| L6 | Morphological- anatomical characteristics of anterior teeth<br>Morphological - anatomical characteristics of posterior teeth | 2 | Krešimirova 42 |
| L7 | Morphology of upper and lower dental row | 2 | Krešimirova 42 |
| L8 | Occlusion and types of occlusal positions | 2 | Krešimirova 42 |
| L9 | Anatomy of oral cavity | 2 | Krešimirova 42 |
| L10 | Physiology of oral cavity | 2 | Krešimirova 42 |
| L11 | Stomatognathic system<br>Binomial | 2 | Krešimirova 42 |
| L12 | Mandibular movements<br>Occlusal movements | 2 | Krešimirova 42 |
| L13 | Dental anthropology | 2 | Krešimirova 42 |
| L14 | Theories about origin of teeth | 2 | Krešimirova 42 |
| L15 | Hominids | 2 | Krešimirova 42 |
| | **TOTAL TEACHING HOURS** | **30** | |

| | PRACTICALS (Topics) | Teaching hours | Location/Lecture room |
|---|---|---|---|
| P1 | Introductory remarks and methods of work.<br>Drawing on paper topographic-anatomical parts and signs on teeth.<br>Drawing morphological characteristics on graph paper - upper central incisor | 2 | Krešimirova 42 |
| P2 | Drawing morphological characteristics on graph paper - upper lateral incisor and lower lateral incisor | 2 | Krešimirova 42 |
| P3 | Drawing morphological characteristics on graph paper - upper and lower canine<br>Repetition of morphological-anatomical features of the incisors. | 2 | Krešimirova 42 |
| P4 | Drawing morphological characteristics on graph paper - | 2 | Krešimirova 42 |

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|---|---|---|---|
| | first upper premolar and second upper premolar | | |
| P5 | Drawing morphological characteristics on graph paper - first lower premolar and second lower premolar | 2 | Krešimirova 42 |
| P6 | Drawing morphological characteristics on graph paper - first upper molar<br>Repetition of morphological-anatomical features of canines and premolars | 2 | Krešimirova 42 |
| P7 | Drawing morphological characteristics on graph paper - second upper molar<br>Drawing morphological characteristics on graph paper - the first lower molar | 2 | Krešimirova 42 |
| P8 | Basic characteristics of dental arches in plaster models | 2 | Krešimirova 42 |
| P9 | Drawing morphological characteristics on graph paper - second lower molar. | 3 | Krešimirova 42 |
| P10 | Drawing primary incisors on graph paper | 3 | Krešimirova 42 |
| P11 | Drawing primary molars on graph paper | 2 | Krešimirova 42 |
| P12 | Characteristics of normal occlusion | 2 | Krešimirova 42 |
| P13 | Repetition of teaching material | 3 | Krešimirova 42 |
| P14 | Colloquium - morphological-anatomical characteristics of teeth | 3 | Informatic classroom |
| P15 | Modeling from clay in two sizes - the upper central incisor | 3 | Krešimirova 42 |
| P16 | Modeling from soap - upper central incisor | 3 | Krešimirova 42 |
| P17 | Modeling from soap - upper lateral incisor | 3 | Krešimirova 42 |
| P18 | Modeling from soap - upper canine | 3 | Krešimirova 42 |
| P19 | Modeling from soap -lower canine | 2 | Krešimirova 42 |
| P20 | Repetition of teaching material | 2 | Krešimirova 42 |
| P21 | Modeling from soap – first upper premolar | 3 | Krešimirova 42 |
| P22 | Modeling from soap – second lower premolar | 3 | Krešimirova 42 |
| P23 | Modeling from clay - first upper molar | 3 | Krešimirova 42 |
| P24 | Modeling from soap - first upper molar | 2 | Krešimirova 42 |
| P25 | Modeling from soap- second upper molar | 3 | Krešimirova 42 |
| P26 | Modeling from soap- first lower molar | 2 | Krešimirova 42 |
| P27 | Modeling from soap- second lower molar | 3 | Krešimirova 42 |

| | | | |
|---|---|---|---|
| P28 | Recognition of extracted native teeth 1 | 3 | Krešimirova 42 |
| P29 | Recognition of extracted native teeth 2 | 2 | Krešimirova 42 |
| P30 | Recognition of extracted native teeth 3 | 3 | Krešimirova 42 |
| | **TOTAL TEACHING HOURS** | **75** | |

| | FINAL EXAM DATES |
|---|---|
| 1. | 26.11.2025 |
| 2. | 11.12.2025 |
| 3. | 29.01.2026 |
| 4. | 11.06.2026. |
| 5. | 09.07.2026. |

| | Lectures | Seminars | Practicals | Total |
|---|---|---|---|---|
| Total number | 30 | 0 | 75 | 105 |
| On-line | 30 | 0 | 0 | 30 |
| Percentage | 100 | 0 | 0 | 28,57 |