



**Karolinska  
Institutet**

Course syllabus for

## **Oral Biomedicine 2, 7.5 credits**

Oral biomedicin 2, 7.5 hp

This course syllabus is valid from spring 2025.

Please note that the course syllabus is available in the following versions:

Spring2020 , Spring2022 , Spring2024 , Spring2025

Course code	2TL053
Course name	Oral Biomedicine 2
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Odontology
Level	G1 - First cycle 1
Grading scale	Pass, Fail
Department	Department of Dental Medicine
Decided by	Utbildningsnämnden DENTMED
Decision date	2019-10-31
Revised by	Education committee DENTMED
Last revision	2024-10-10
Course syllabus valid from	Spring 2025

### **Specific entry requirements**

Biology 2, Physics 2, Chemistry 2, Mathematics 4 or Mathematics D.

### **Objectives**

#### **Oral development and anatomy, 6 hp**

After completing the course the student can:

- Account for normal development of the face and oral cavity, including tooth formation, and explain how developmental disorders in these structures occur.
- Describe in detail the normal features of the tissues that build up the oral cavity, salivary glands and facial skeleton, with the use of histological images.
- Account for the structure of the tooth, distinguish between and identify primary and permanent teeth, and describe their most common morphological characteristics.
- Describe normal occlusal development and a normal dentition with a correct nomenclature.
- Mold teeth according to their specific morphological characteristics.

#### **Oral biochemistry, 1.5 hp**

After completing the course the student can:

- Explain concepts and definitions within oral biochemistry.
- Describe the organic and inorganic components of hard tissues and how they contribute to hard tissue formation.
- Describe the organic and inorganic components of saliva.
- Explain how the chemical composition and production of saliva influences saliva function.
- Describe the biochemical composition of gingival crevicular fluid, pellicle and plaque as well as reflect on how these affect the oral environment.
- Reflect on the importance of fluoride and overall oral biochemistry in preserving the healthy oral environment.

## Content

The course consists of two modules:

### Oral development and anatomy, 6.0 hp

Grading scale: GU

The module covers:

- Development of the face and mouth
- Normal histology of the oral cavity, salivary glands and facial skeleton
- Normal development and anatomy of the dentition and teeth
- Normal occlusion

### Oral biochemistry, 1.5 hp

Grading scale: GU

The module covers:

- Hard tissue biochemistry
- Saliva biochemistry
- Gingival crevicular fluid biochemistry
- Pellicle and plaque biochemistry
- Fluoride biochemistry

## Teaching methods

Lectures, seminars, laboratories and pre-clinical training.

## Examination

### Oral development and anatomy, 6 hp

Examination: Written examination and structured practical test.

Compulsory course elements: Team Based Learning (TBL) seminars, certain laboratories and pre-clinical training.

### Oral biochemistry, 1.5 hp

Examination: Written examination and written assignment.

The examiner decides whether, and if so how, absence from compulsory course elements can be made up. Study results cannot be reported until the student has participated in compulsory course elements or

compensated for any absence in accordance with instructions from the examiner. Absence from a compulsory course element could mean that the student cannot retake the element until the next time the course is offered.

Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. If the student has failed six examinations/tests, no additional examination is given. Each occasion the student participates in the same test counts as an examination. Submission of a blank exam paper is regarded as an examination. In case a student is registered for an examination but does not attend, this is not regarded as an examination.

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected skills, knowledge and abilities may not be changed, removed or reduced.

## Transitional provisions

If the course is discontinued or undergoes major changes, the examination according to the previous literature list and learning outcomes is offered no more than one academic year after the audit /closure.

## Other directives

### Oral development and anatomy, 6 hp

Language of instruction: Swedish and English.

Language of examination: Questions are in Swedish and English. Answers in Swedish or English are acceptable.

### Oral biochemistry, 1.5 hp

Language of instruction: English.

Language of examination: Questions are in Swedish and English. Answers in Swedish or English are acceptable.

## Literature and other teaching aids

### Compulsory literature

*NANCI, ANTONIO.*

**TEN CATE'S ORAL HISTOLOGY : development, structure,and function.**

[S.l.] : ELSEVIER - HEALTH SCIENCE, 2024

ISBN:0323798950 LIBRIS-ID:xhv5fnhsvhx7j1q1

[Library search](#)

*Fehrenbach, Margaret J.; Popowics, Tracy*

**Illustrated dental embryology, histology, and anatomy**

5th edition : St. Louis : Elsevier, [2020] - xi, 334 pages

ISBN:9780323611077 LIBRIS-ID:5h99hj2b3kbq8ggv

[Library search](#)

**Oral biology / B.K.B. Berkovitz ... [et al.]**

2011-2011

ISBN:9780702044588 LIBRIS-ID:kxrwdpw9htpjhlst

*Master Dentistry Volume 3*

[Library search](#)

*Scheid, Rickne C.; Weiss, Gabriela.*

**Woelfel's dental anatomy**

Enhanced Ninth Edition : Burlington,MA : Jones & Bartlett Learning, [2017] - XI, [1], 532 sidor  
ISBN:9781284218244 LIBRIS-ID:zdkd01sxxw010dcpv

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**Recommended literature**

**Basic Sciences for Dental Students**

*Whawell, Simon A.; Lambert, Daniel W.*

Hoboken, NJ : John Wiley & Sons, 2017 - 274 sidor  
ISBN:9781118905579 LIBRIS-ID:20896970

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