



**Karolinska  
Institutet**

Course syllabus for

## **Medical and Odontological Subjects 2, 9 credits**

Medicinska och odontologiska ämnen 2, 9 hp

This course syllabus is valid from spring 2023.

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

Spring2020 , Spring2021 , Spring2023

Course code	1TY006
Course name	Medical and Odontological Subjects 2
Credits	9 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
Grading scale	Fail (U), pass (G) or pass with distinction (VG)
Department	Department of Dental Medicine
Participating institutions	<ul style="list-style-type: none"><li>• Department of Laboratory Medicine</li></ul>
Decided by	Utbildningsnämnden DENTMED
Decision date	2019-03-14
Revised by	Education committee DENTMED
Last revision	2022-10-18
Course syllabus valid from	Spring 2023

## **Specific entry requirements**

Mathematics 2a or 2b or 2c, Natural Sciences 2, Social Sciences 1b or 1a1+1a2.

## **Objectives**

### **Nutrition, 3.5 credits**

After completing the course, students will be able to:

- Describe nutrition on the basis of scientific research and evidence.
- Describe the importance of diet and dietary habits for oral and general health, as well as for general well-being.
- Describe the importance of diet and dietary habits for the individual's living environment on the basis of cultural and social aspects.
- Compile a diet history and suggest recommendations for changes to dietary habits with a view to promoting oral health, based on a professional approach.

**Pharmacology, 2.5 credits**

After completing the course, students will be able to:

- Describe basic pharmacological principles on how medications are metabolised and how medications take effect.
- Describe the importance of medication in the interaction between oral health and general health.
- Describe drug-related problems such as adverse effects/interactions and how these are dealt with in order to enhance patient safety.
- Handle and prescribe medications on the basis of the available guidelines.
- Search for, analyse and use relevant information sources.

**Oral radiology 1, 3 credits***Knowledge and understanding*

After completing the course, students will be able to:

- Describe the biological effects of X-ray radiation, and evaluate and apply different methods in order to reduce the dose of X-ray radiation to the patient, personnel and the general public during intraoral X-ray imaging.
- Describe applicable regulations from the Swedish Radiation Safety Authority that regulate work with ionising radiation when taking X-rays of patients.
- Describe the basics of radiation physics and radiation biology.
- Describe the function of the X-ray imaging machine.
- Assess and evaluate image quality and analyse its importance for X-ray diagnosis.
- Describe the principles of analogue X-ray imaging.

*Knowledge and ability*

After completing the course, students will be able to:

- Review intraoral X-ray images and analyse normal anatomical structures, and also diagnose caries and periodontal changes and give relevant suggested diagnoses for the radiographic findings within the scope of the dental hygienist's area of expertise.
- Perform preclinical X-ray imaging of teeth and alveolar ridges using digital intraoral technology, and mount and process digital X-ray images.
- Optimise X-ray imaging so that the radiation dose is as small as is reasonably possible while also obtaining the desired information

*Judgement and approach*

After completing the course, students will be able to:

- Demonstrate an insight and understanding of the importance of working together with dentists for analysis and interpretation of radiological changes in teeth, jaws and surrounding tissues that do not form part of the dental hygienist's area of expertise.

**Content**

This course comprises three modules:

**Nutrition, 3.5 hp**

Grading scale: GU

- Dietary habits, nutrition, energy metabolism, energy needs and nutritional and dietary recommendations.
- Nutrition linked with oral and general health.

- Diet history.
- Multicultural and social aspects of diet.

## **Pharmacology, 2.5 hp**

Grading scale: GU

- Pharmacokinetics and pharmacodynamics.
- Drug-related problems such as adherents, adverse effects and interactions, and adverse effects related to the oral cavity and teeth.
- Laws and statutes relating to medication management and prescription medications.
- Procedure when issuing prescriptions.
- Aspects of drug therapy during pregnancy and breastfeeding.

## **Oral radiology 1, 3.0 hp**

Grading scale: VU

- Science of projection, selection criteria, digital image processing and handling of intraoral X-ray images, X-ray imaging on a phantom model, plus diagnosis of caries and marginal conditions.
- Radiation physics, radiation biology and radiation safety.

## **Teaching methods**

### **Nutrition, 3.5 credits**

Lectures and group work.

### **Pharmacology, 2.5 credits**

Lectures and seminars.

### **Oral radiology 1, 3.0 credits**

Lectures, seminars, demonstrations, work in pairs and group work.

## **Examination**

### **Nutrition, 3.5 credits**

Examination: Written home examination.

Mandatory activities: Group work.

### **Pharmacology, 2.5 credits**

Examination: Written examination.

Mandatory activities: Seminars.

### **Oral radiology 1, 3 credits**

Examination: Written examination and preclinical test.

Mandatory activities: Seminars, demonstrations, pair- and group activities

To receive a grade of Pass with distinction for the whole course, a Pass with distinction is required for the Oral radiology 1 module, as well as a Pass in Nutrition and Pharmacology.

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, examination opportunities will be offered according to a previous list of references and intended learning outcomes for a maximum of one academic year after the implementation of the revision/discontinuation.

## Literature and other teaching aids

### Mandatory literature

#### **Näringslära för högskolan : från grundläggande till avancerad nutrition**

*Abrahamsson, Lillemor*

6., utök. och uppdaterade uppl. : Stockholm : Liber, 2013 - 480 s.

ISBN:97891471105205 LIBRIS-ID:14010174

[Library search](#)

#### **Farmakologi**

*Norlén, Per; Lindström, Erik*

Fjärde upplagan : Stockholm : Liber, 2021 - 423 sidor

ISBN:9789147131198 LIBRIS-ID:0d4z814jxlkdwcw4

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#### **Oral radiologi**

*Gröndahl, Hans-Göran; Ekestubbe, Annika; Lilja, Agneta*

3. uppl. : Stockholm : Gothia, 2005 - 102 s.

ISBN:91-7205-475-1 LIBRIS-ID:9976139

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*Mallya, Sanjay M.; Lam, Ernest W.N.*

#### **White and Pharoah's oral radiology : principles and interpretation**

8th edition. : St. Louis, Missouri : Elsevier, [2019] - ix, 659 pages

ISBN:9780323543835 LIBRIS-ID:hrc13f82fqtqxqwg6

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### Recommended literature

*Johansson, Ulla; Stubbendorff, Anna*

#### **Näring och hälsa**

Fjärde upplagan : Lund : Studentlitteratur, [2020] - 471 sidor

ISBN:9789144125947 LIBRIS-ID:s4hgqsrcqxvvn8

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