



**Karolinska  
Institutet**

Course syllabus for

## **Specific Course in Odontology - Adult Dental Care, 9 credits**

Odontologisk ämnesspecifik kurs - vuxentandvård, 9 hp

This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.

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

Autumn2010 , Autumn2011

Course code	7KT002
Course name	Specific Course in Odontology - Adult Dental Care
Credits	9 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Odontology
Level	AV - Second cycle
Grading scale	Pass, Fail
Department	Department of Dental Medicine
Decided by	Styrelsen för utbildning
Decision date	2010-09-13
Revised by	Styrelsen för utbildning
Last revision	2011-09-14
Course syllabus valid from	Autumn 2011

### **Specific entry requirements**

Foreign dentists with Degree of Master of Science in Dental Surgery outside EU/EEA and Switzerland decisions awarded of The Swedish National Board of Health and Welfare about investigation of dental knowledge and skills through examinations, or at least a completed four-year education and at least 1 year of documented clinical activities, and English and Swedish language skills equivalent to English A and Swedish B at Swedish upper secondary school are also required.

### **Objectives**

Part 1: Periodontology including soft tissue diagnostics The student should after the course independently be able to: - describe and account for the anatomy, histology and physiology of the periodontium and the oral mucous membrane - account for and analyse the aetiology, pathogenesis, diagnosis and prognosis of the periodontal inflammation - account for the immunological inflammation at mucous membrane changes - account for oral biofilm microbiology and interpret the microbiology at periodontal disease - understand and account for different periodontal treatment forms above all scaling

and flap surgery - account for periodontal healing after non surgical and surgical treatment - account for and estimate the effect of system diseases and other risk factors on periodontal disease at prognosis estimation - choose, explain and administrate preparation and occasion for antibiotic prophylaxis at periodontal treatment - discuss and suggest regenerative periodontal surgery - classify periodontal diseases - communicate with and motivate the patient for periodontal treatment - be familiar with instruments and its usage at periodontal surgery and under supervision carry out flap surgery - carry out suturing with different suturing techniques - suggest treatment plan and evaluate treatment result - establish and suggest a program for periodontal follow up care adapted to individual risk factors and prognosis

**Part 2: Cariology** The student should after the course independently be able to: - account for the aetiology of caries disease - account for and analyse the relation between caries attacking - and resistance forces and discuss their relation to one another - account for and assess the results of a cariologic investigation - account for and analyse the dynamics of the caries process - account for and analyse the microbiology of the caries process and the patient-related factors that influence it - account for and assess the importance of different saliva factors in the caries process - decide and analyse the function of the salivary glands and diagnose disturbances in the salivary gland function - account for possible strategies for prevention and treatment of active caries disease - account for the theoretical basis and the assessments that form the basis of diagnostics of caries activity, risk and prognosis - account for differential diagnosis between caries lesions and other dental hard tissue defects - account for and analyse the metabolism of fluoride and its effects in biological tissues and be able to assess and theorize this knowledge - account for the modes of action of fluoride in the caries process

**Part 3: Dental materials with odontological toxicology** The student should after the course independently be able to account for - the implication in central materials scientific concepts - composition and properties for plastic filling materials - the relationship between plastic filling materials physical and chemical properties in relation to clinical preconditions and indications for material selection - the principle for dentin bonding and explain how the choice of dentin bonding systems can influence the long-term retention of dental fillings - composition and properties of the materials used clinically for fixed and removable prosthodontics including supporting materials - dental technology materials and production methods for various types of fixed and removable prosthodontics - critical stages in clinical treatment combined with the dental technicians work that can lead to deficiencies for the completed design - the concept of quality assurance and the regulatory framework around medical engineering products and how this influences the clinical work.

**Part 4: Endodontics** The student should after the course independently be able to - describe the topographic anatomy of the pulp in all teeth - account for and reflect on aetiology and diagnostics of pathological conditions in pulp and periradicular tissue - discuss endodontic treatment possibilities from clinical and theoretical aspects - account for criteria for assessment and evaluation of endodontic status - account for and reflect on the principles of how one can prevent irreversible pulp injuries at operative intervention in the calcified tissues of the tooth

**Part 5: Clinical oral physiology** The student should after the course independently be able to: - account for clinical applicable parts of the anatomy and physiology of the trigeminal system and the throat backbone - account for and discuss diagnostics and differential diagnosis of pathological conditions in the functional components of the masticatory system (the jaw and tongue muscles, temporomandibular joints and occlusion) - account for etiological factors locally (bruxism, occlusion and articulation, trauma) and centrally (emotional stress and stress state, general joint and muscle diseases, disturbances in the central nervous system and genetic factors) - account for various types of treatment, including occlusal splints, bite grinding, physical therapy and pharmacological treatment for TMJ condition - know about the background to obstructive sleep apnea syndrome (OSAS) and its dental treatment possibilities.

**Part 6: Prosthodontics with Implantology** The student should after the course independently be able to - analyse the importance of cariologic, periodontal, endodontic and/or occlusal physiological disease from a prosthetic perspective and assess endodontic status - account for and analyse the principles of prosthetic treatment planning and analyse the reasons for planned prosthetic treatment - account for and analyse indications for choices of fixed or removable prosthetic design - account for the criteria for the fit and quality of a prosthetic design - account for material selection in prosthetic designs and when necessary choice of cementation method and cement

**Implantology** The student should after the course have theoretical awareness about - osseointegration/bone biology/implant surfaces - the frequency of success and long-term prognosis for various types of implant treatment - indications/contraindications of different load concepts (immediate-early-late load). - functional aspects of implant rehabilitation - treatment planning - implant surgery - treatment procedure for implant

retained constructions - management/treatment when complications occur - different forms of pneumatised bone surgery, technique, prognosis, complication risk - scientific documentation of various implant systems and long-term follow-up. Part 7: Oral radiology including oral pathology After the course, the student should independently be able to - account for and explain the origin and properties of the X-ray radiation and how X-ray radiation can give origins to an image, analog as well as digital and how different factors influence the quality of the X-ray image - account for, explain and analyse the biological effects of the X-ray radiation and evaluate and apply different methods to reduce X-ray dosage to patient and staff at X-ray examination - account for the indications, importance and application of dental radiography - account for and explain how intraoral X-ray images are mounted should be reviewed and be assessed and archived - reflect over and evaluate the image quality importance for diagnostic radiology - account for normal-anatomic structures appearance in intraoral X-ray images and in panoramic x-ray - account for how to diagnose caries and marginal changes and other pathological changes or abnormalities in jawbones and other reproduced parts of the face skeleton in the X-ray image - account for how to set relevant diagnosis on detected changes from available X-ray images into a written statement - account for and apply from the Swedish Radiation Safety Authority according to Swedish radiation protection law, current laws and regulations for X-ray work and medical records keeping. Part 8: Oral Surgery On completion of the course, the student should be able to: account for general dentoalveolar and oral surgery principles. evaluate symptoms and take clinical decisions with a therapeutic and holistic attitude to the patient. diagnose and account for treatment of patients with common oral surgery and oral medical diseases and oral manifestations of system diseases. investigate patients with facial pain. have knowledge and understanding of changes in the mouth mucosa at malignancy and the other serious diseases

## Content

**Periodontology including diagnostics of soft tissues, 1 hp** Lectures, seminars and demonstrations include the learning objectives stated in the learning outcomes. Instrument awareness for non surgical and surgical treatment with practical management is also given in demonstration form. The seminar activity includes overview and presentation of the scientific literature, both pre-clinical and clinical documentation. **Cariology, 1 hp** Lectures on the clinical image of caries, index, frequency, activity and risk, the causal factors of caries, investigation of them and planning and carrying-out of appropriate measures to prevent further caries progression, the microbiology of the caries process, calcified tissue reactions, principles of choice of tooth-coloured filling materials and fluoride knowledge, the tooth hard tissue defects and treatment, the theoretical knowledge concerning salivary glands, salivary secretion and cariologic treatment planning. Interdisciplinary treatment planning training on computer simulated patients (WEB-SP) Literature studies. **Dental materials with odontological toxicology, 1 hp** Material groups and central concepts are presented at a general level in a lecture. Practical exercises for learning takes place through advanced assignments including compulsory group presentation and compulsory laboratory studies. **Endodontics, 1.5 hp** Lectures on examination technique and diagnostics of pulpal and periradicular diseases, pulp and root anatomy, preparation of cavum, root canal preparation and obturation. The lectures also include theoretical basis for decision-making at assessing endodontic conditions, diagnosis of dental pain conditions, treatment of traumatised teeth, endodontic microbiology, disinfection of infected root canals, the problems of the root canal preparation and complications at clinical work. The lectures comprise theoretical information to be able to make an assessment of the conditions in the tooth and increase the understanding of endodontic status, endodontic microbiology, disinfection, cleaning problems and complications of treatment. Seminars with presentation of theoretical contexts are made in groups as a repetition before written examination. **Clinical Oral Physiology, 1 hp** Lectures on joint and muscle diseases, the facial pain of articulate and muscular origin including TMD, trauma injuries, sleep apnea syndromes, head-ache, neuropathic pain in the trigeminal system, diagnostic and therapeutic methods. Seminar and clinical demonstrations. **Prosthodontic with Implantology, 2 hp** Lectures and demonstrations. IT-based study materials concerning fixed and removable prosthodontics **Oral radiology including oral pathology, 1 hp** In the course, education in the properties of the X-ray radiation is given, origin and biological impact, radiation protection and radiation protection acts. Exercises are carried out with interpretation of normal X-ray anatomy in intraoral images and in panoramic x-rays. Lectures and seminars are given inter alia concerning values

of diagnostic methods, image quality and interpretation of pathological changes in teeth and jaws in X-ray images. **Oral surgery, 0.5 hp** The course consists of a lecture series on the most important fields within oral surgery and oral medicine.

## Teaching methods

Part 1: Lectures and seminars, self-study and group assignments. Seminars and group assignments are compulsory. Part 2: Lectures, seminars, clinical exercises and demonstrations, literature studies, training with computer simulated WEB-SP cases are compulsory. Part 3: Teacher-supervised laboratory sessions, studies of compendia, written presentations, oral presentation in groups and lectures. Part 4: Lectures, demonstrations, IT-based study material is to obtain. Part 5: Lectures, seminars, group exercises. Part 6: Lectures on theory within fixed and removable prosthodontics concerning treatment planning, economics, exposure, cementation and follow up, etc Clinical demonstrations in fixed and removable prosthodontics. IT-based study material on fixed and removable prosthodontics. Patient treatment with removable prosthodontics may be started after completion of the compulsory demonstration course. Part 7: Lectures, group assignments with presentations, seminars Part 8: Lectures and seminars.

## Examination

Part 1: Passed compulsory parts. Written examination Part 2: Written examination. Attendance is required at compulsory parts. Missed occasions should be compensated for by a make-up assignment given by the course manager. Part 3: Written examination, and a written and oral presentation of advanced assignments. Attendance is required at compulsory parts of the course, see above. Missed occasions should be compensated for by a make-up assignment given by the course manager. Part 4: Written examination. Attendance is required at compulsory parts of the course, see above. Missed occasions should be compensated by make-up assignment from the course provider. Part 5: Written examination Part 6: Written examination Part 7: Written examination Attendance at clinical training is compulsory. In case of absence from a compulsory part, completion of a make-up assignment from the course provider is required. Part 8: Written examination. If the student's examination has not passed, the student gets 2 more examination opportunities. After that, the student is recommended to retake the course and is given 3 more examination opportunities. If the student has not passed after 6 trials, he/she has no more admission to the course. (HF 6 chapter 11a §).

## Transitional provisions

If the course is closed-down or undergoes major changes, examination under a previous reading list and learning outcomes are offered, no more than one academic year (no more than 2 examinations in addition to regular examinations) after the implementation of the revision/close-down.

## Literature and other teaching aids

### **Clinical periodontology and implant dentistry.n Vol. 1:p Basic concepts**

*Lindhe, Jan; Lang, Niklaus P.; Karring, Thorkild*

5. ed. : Oxford, UK ;a Ames, Iowa : Blackwell Munksgaard, 2008 - 2 vol.; s. 1-569

ISBN:978-1-4051-6099-5 LIBRIS-ID:10677415

[Library search](#)

*Statens beredning för medicinsk utvärdering (SBU)*

### **Kronisk parodontit: prevention, diagnostik och behandling : en systematisk litteraturöversikt**

Kronisk parodontit: prevention, diagnostik och behandling : en systematisk litteraturöversikt, : 2004

ISBN:91-87890-96-8

[Library search](#)**Blomgren J et al. Få indikationer för antibiotikaprofylax Tandläkartidningen***Klinge, Björn; Gustafsson, Anders***Parodontit: en introduktion**

3., [uppdaterade] uppl. : Stockholm, : Gothia,, 2006

ISBN:91-7205-482-4

[Library search](#)**Rökning och ohälsa i munnen : en evidensbaserad kunskapssammanställning**

Stockholm : SBU, 2002 - 137 s.

ISBN:91-87890-74-7 LIBRIS-ID:8419688

[Library search](#)**Tandläkartidningen 2004; 96: 1, 22-73. Temanummer Parodontologi I.****Tandläkartidningen 2004; 96: 32-74. Temanummer Parodontologi II.****Att förebygga karies : en systematisk litteraturöversikt***Holm, Anna-Karin*

Stockholm : SBU, 2002 - 372 s. +e Summary and conclusions (26 s.)

ISBN:91-87890-81-X LIBRIS-ID:8755500

[Library search](#)**Datorsimulerade WEB-SP-fall (<http://ki.se/ki/jsp/polopoly.jsp?d=17593&l=en>)***Fejerskov, Ole.; Kidd, Edwina A. M.***Dental caries : the disease and its clinical management**

2. ed. : Oxford, UK ;a Ames, Iowa, USA : Blackwell Munksgaard, 2008 - 616 p.

ISBN:978-1-4051-3889-5 (hardback : alk. paper) LIBRIS-ID:10737086

[Library search](#)**Karies - diagnostik, riskbedömning och icke-invasiv behandling : en systematisk litteraturöversikt : december 2007**

Stockholm : Statens beredning för medicinsk utvärdering (SBU), 2007 - 403 s.

ISBN:9789185413218 LIBRIS-ID:10674162

URL: [http://www.sbu.se/upload/Publikationer/Content0/1/Karies\\_2007\\_fulltext.pdf](http://www.sbu.se/upload/Publikationer/Content0/1/Karies_2007_fulltext.pdf) z Fulltext[Library search](#)**Kliniska anvisningar för Studenternas vuxenklirik****Kunskapsdokument från (KDM) Socialstyrelsen. Webb sida: [www.sos.se/kdm/](http://www.sos.se/kdm/)***Lamont, Richard J.***Oral microbiology and immunology**

Washington, D.C. : ASM Press, c2006 - 458 p.

ISBN:1-55581-262-7 (pbk.) LIBRIS-ID:10243998

[Library search](#)*Kidd, Edwina A. M***Essentials of dental caries: the disease and its management**

3. ed. : Oxford : Oxford University Press, 2005

ISBN:0-19-852978-3

[Library search](#)*Mjör, Ivar Andreas***Pulp-dentin biology in restorative dentistry**

Chicago : Quintessence Publ., cop. 2002. - x, 152 s.  
ISBN:0-86715-412-8 (softcover) LIBRIS-ID:8678137

[Library search](#)

*Dérاند, Tore; Molin, Margareta*

**Dentala material: bra att veta i klinisk vardag**

1. uppl. : Stockholm : Gothia, 2004

ISBN:91-7205-443-3

[Library search](#)

*O'Brien, William J. (red.)*

**Dental materials and their selection**

3. ed. : Chicago : Quintessence Publ., 2002

*Haapasalo, Markus; Endal, U.; Friedman, Shimon*

**Visual Endodontics & Traumatology : An Interactive DVD-ROM**

2006

*Okeson, Jeffrey P*

**Management of temporomandibular disorders and occlusion**

6. ed. : St. Louis, Mo. ; a London : Mosby, cop. 2008 - 631 s.

ISBN:978-0-323-04614-5 (hbk.) LIBRIS-ID:10503997

[Library search](#)

*Sessle, Barry J.*

**Orofacial pain : from basic science to clinical management : the transfer of knowledge in pain research to education**

2nd ed. : Chicago : Quintessence Pub., c2008. - xiii, 250 p.

ISBN:978-0-86715-458-0 (hardcover) LIBRIS-ID:11332279

[Library search](#)

*Allen, P. Finbarr; McCarthy, Sean*

**Complete dentures: from planning to problem solving**

London : Quintessence, 2003

ISBN:1-85097-064-5

[Library search](#)

**Artiklar i J Prosthetic Dentistry och International Journal of Prosthodontics.**

**A textbook of fixed prosthodontics : the Scandinavian approach**

*Karlsson, Stig; Nilner, Krister; Dahl, Bjørn L.*

Stockholm : Gothia, 2000 - 360 s.

ISBN:91-7205-280-5 (inb.) LIBRIS-ID:7623058

[Library search](#)

*Jepson, Nicholas J. A.*

**Removable partial dentures**

London : Quintessence, 2004

ISBN:1-85097-075-0

[Library search](#)

*Milleding, Percy*

**Kron och broprotetisk preparationslära**

Särtryck, 1989 - 230s.

### **Partiell plattprotetik**

*Bergman, Bo; Stenman, Evert*

Solna : LIC : b Invest-odont, 1994 - 75 s.

ISBN:91-7584-295-5 LIBRIS-ID:7649487

[Library search](#)

*Rosenstiel, Stephen F.; Land, Martin F.; Fujimoto, Junhei,*

### **Contemporary fixed prosthodontics,**

4. ed., : St. Louis, : Mosby, 2006

ISBN:0-323-02874-8

[Library search](#)

### **Tandtekniska och kliniska anvisningar för framställning av helprotes av Pamenius et al. Föreläsningsanteckningar och handouts.**

#### **Kurskompendier**

*Milleding, Percy G.; Molin, Margareta; Karlsson, Stig*

### **Dentala helkeramer i teori och klinik**

1. uppl. : Stockholm : Gothia, 2005 - 200 s.

ISBN:91-7205-444-1 LIBRIS-ID:10005723

[Library search](#)

*White, Stuart C.; Pharoah, Michael J. (red.)*

### **Oral radiology: principles and interpretation.**

6th ed. : St. Louis : Mosby/Elsevier, 2009

ISBN:978-0-323-04983-2

[Library search](#)

### **Av kursgivaren utvalda relevanta artiklar inom ämnesområdet.**

*Ekestubbe, Annika; Gröndahl, Hans-Göran*

### **Oral radiologi**

4. uppl. : Stockholm : Gothia, 2008

ISBN:978-91-7205-625-1

[Library search](#)

*Petrén, Ture; Carlsöö, Sven*

### **Anatomi för tandläkarstuderande och tandläkare**

[Ny utg.] : Stockholm : Nordiska bokhandelns förlag :b Norstedts akademiska förlag :b [ePan], 2006 - 377, [1] s.

ISBN:91-7297-805-8 LIBRIS-ID:10228789

[Library search](#)

### **Statens Strålskyddsinstitut: www.SSI.se**

*Whaites, Eric*

### **Essentials of dental radiography and radiology**

4. ed. : Edinburgh : Churchill Livingstone, 2007 - 473 s.

ISBN:0-443-10168-X LIBRIS-ID:10371710

[Library search](#)

*Axéll, Tony*

### **Munslemhinneförändringar : klinik och behandling**

5., omarb. uppl. : Stockholm : Gothia, 2006 - 120 s.

ISBN:91-7205-264-3 (inb.) LIBRIS-ID:7623043

[Library search](#)

**Contemporary oral and maxillofacial surgery**

*Hupp, James R.; Tucker, Myron R.; Ellis, Edward*

5. ed. : Edinburgh : Mosby, 2008 - xiv, 714 s.

ISBN:978-0-323-04903-0 (hbk.) LIBRIS-ID:10719266

[Library search](#)

*Rosén, Annika*

**Lokalanestesi och smärta**

*Jarnbring, Fredrik*

Studentlitteratur AB, 2008

*Scully, Crispian; Dios, Pedro Diz; Kumar, Navdeep*

**Special care in dentistry : handbook of oral healthcare**

Edinburgh : Churchill Livingstone, 2006 - xi, 504 p.

ISBN:0-443-07151-9 LIBRIS-ID:10216302

[Library search](#)