UiO **Contrologiske fakultet**

UiO: Faculty of Dentistry

Programme description:

Bachelor of Science degree programme in Dental Hygiene

Approved by the Board of the Faculty of Dentistry

23 April 2013

PROGRAMME DESCRIPTION

BACHELOR OF SCIENCE DEGREE PROGRAMME IN DENTAL HYGIENE

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I. BACHELOR OF SCIENCE DEGREE PROGRAMME IN DENTAL HYGIENE

I.I TARGET GROUP

The Bachelor of Science degree programme is aimed at those who are seeking education in the field of health promotion and disease prevention. Students should enjoy contact with other people and should have good communicative abilities. This requires excellent knowledge of both oral and written Norwegian. Students should be interested in natural science subjects and should be able to develop technical skills.

The programme makes considerable demands on students with regard to attendance, independent study, group work, problem-solving tasks and various ways of working on the syllabus.

1.2 LEARNING OUTCOME

The learning outcome for the bachelor degree students is described under each subject area in section 4: Content and structure of the programme (4.5 - 4.7) and in the appended programme description.

Dental hygienists' competence lies in the integration of theoretical studies and practical training. Dental hygienists are expected to safeguard the interests of the patient through patient participation and through collaboration with other occupational groups. Professional practice shall be based on equality and respect for the integrity and rights of the individual in the light of ethical considerations and legislation, and on preserving the patient's autonomy and right to co-determination. All patient contact shall be based on empathy, responsibility and professional knowledge.

On completion of the study programme students will be able to provide services to people of all ages – both those without disabilities and those with various functional impairments. The programme should enable students to develop the ability to convert knowledge and insight into solutions that can be applied with a focus on the awareness of responsibility, ethical judgement and professional integrity. The study programme must provide a foundation for acquiring the knowledge that contributes to the understanding and development of multicultural skills, respect, tolerance and relationship building.

Competence in the fields of IT and the collection of data/relevant sources is critical for learning, and students will gain an insight into the fundamental rules for citations and use of sources, and into the definitions of plagiarism and cheating applied to students' work. Students must be able to document, quality assure and evaluate their own work.

Students will be given adequate time and opportunity to develop professional confidence and professional identity. These fundamental qualities are required for building relationships and for cooperating across relevant professions in the practice of the profession. A primary goal is for students to develop an open and reflective view on how their role and the dental hygienist profession can be performed and further developed.

1.3 COMPETENCE IN RELATION TO PROFESSIONAL PRACTICE AND FURTHER STUDIES

Occupational qualifications are acquired through place- and assignment-specific training at workplaces (contextual occupational qualifications) and through the study programme (professional occupational qualifications) as stated in the Norwegian parliament's white paper *Report no. 13 to the Storting, 2012,*

Education for Welfare. The contribution made by working life to the qualification of dental hygienists is thus decisive to ensure that the dental health service acquires the competence it is seeking.

The Bachelor of Science degree programme in Dental Hygiene has a profession-oriented and over-arching goal: to qualify dental hygienists to implement health-promoting, disease-preventing and treatment measures for individuals, groups and the population as a whole. The dental care subject will primarily have humanistic ethical principles as its basis, represented by areas such as psychology and education theory. The biological, medical and odontological subject areas constitute an understanding of natural sciences and form a platform for acquiring clinical competence. Through the study programme, students will gain sound knowledge of odontological course subjects and will achieve a good understanding of what affects people's health in both a societal perspective and at the individual level.

The study programme qualifies students for clinical dental care work in the public sector and private dental health service. It provides students with the skills required to carry out motivational and guidance tasks that promote patient autonomy. Through the study programme, dental hygienists will learn to create the conditions for the patient's well-being and quality of life through treatment and through health-promoting and disease-preventing measures. The public health perspective is of key importance, and the study programme contributes to enabling dental hygienists to make ethical and well-considered prioritizations in relation to both the needs of society and existing legislation.

Health-promoting and *disease-preventing* activities will in principle require different angles of approach and thus different strategies. Both areas will be naturally integrated into an overall professional understanding and practice. During the study programme, particular emphasis is placed on how students can interact with patients and with other partners.

The study programme qualifies the dental hygienist to coordinate dental health projects.

The completed bachelor's degree allows the graduates to take further studies at master's degree level within certain health subjects.

2. BACKGROUND

The programme description is based on regulations and legislation that apply for the Norwegian health service and higher education, and on the supervisory regulations of the Norwegian Agency for Quality in Education, the national qualification framework for life-long learning, the national health and care plan, white papers, reports from health and education authorities and the University of Oslo's regulations.

The study programme gives priority to variation in learning and teaching methods. The programme has a clear public health profile – for example by integrating health-promoting and disease-preventing measures into key subject areas.

The programme places emphasis on a holistic view of humanity. This requires both interdisciplinary competence and the ability to select the right strategies for personal professional practice and cooperation with other professions.

2.1 DEVELOPMENT OF THE DENTAL HYGIENIST STUDY PROGRAMME AND PROFESSIONAL ROLE

Europe's first cohort of dental hygienists graduated in Oslo in 1925. One of the reasons for establishing the programme was the shortage of dentists when dental care in schools was introduced. Up to 1947, four dental

hygienist courses had been held. In the post-war period, dentists experienced growing pressure of work, while at the same time the understanding for placing greater emphasis on preventive measures in dental health increased. A gap thus arose for school dental care, which dental hygienists had to fill. This largely formed the basis for the professional role of dental hygienists in relation to that of dentists in this period.

The need for greater competence gradually increased as dental hygienists were given more independence and the responsibility for a growing number of clinical tasks – including in private practice. Theory, skills training (for instance in clinical examination), the prevention and treatment of periodontitis and outreach activities were introduced as a key component of the study programme. New subject areas were dental care for disabled persons, community dentistry, education theory and psychology.

The tasks the dental health service was to carry out changed gradually as the dental health of children and young people radically improved during the 1970s and 1980s. The need for more supervision and for treating the elderly, the disabled and the chronically ill were defined as priority measures at that time.

From the end of the 1970s the health authorities initiated more assessments and more projects to increase the efficiency of the dental health service. This made it clear that greater investment in interdisciplinary work, outreach activities and increased clinical independence for dental hygienists would help to enhance the quality of the dental health service.

Dental hygienist education in Oslo took the form of one-year programmes from 1948 to 1971. From 1971 the study programme at the Faculty of Dentistry in Oslo was extended to two years, and in 1976 a two-year programme for dental hygienists was started at the Faculty of Medicine and Dentistry in Bergen. In 1994 Tromsø University College started a two-year dental hygienist study programme. The study programmes in Oslo and Bergen were converted to a three-year bachelor's degree programme in 2003. Tromsø followed suit in 2006, now at the University of Tromsø, and at Hedmark University College the bachelor's degree programme in dental hygiene started in 2009.

Dental hygienists were also included in the groups that were subject to the new Norwegian Health Personnel Act from 2001. The legislative amendment meant that all authorized healthcare personnel were charged with the responsibility for quality, patient safety and good cooperation across the professions, cf. Proposition no 13 to the Odelsting – 1998/99.

2.2 KNOWLEDGE BASE

The practice of the dental care profession is complex and diverse and must therefore be based on knowledge derived from several disciplines of scientific theory. In their work, dental hygienists are often faced with a number of situations that entail them making professional decisions. The implementation of knowledge-based practice is said to consist of making professional decisions founded on systematically acquired research-based knowledge, empirical knowledge and the patient's wishes and needs in the particular situation (Nortvedt MW, Jamtvedt G, Graverholdt B, Reinar LM, 2007). By gaining insight into how to base their work on knowledge, dental hygienists will be capable of seeking, acquiring and using new and recognized information. Their practice of the profession must be characterized by professional judgement through their clinical experience and ethical assessments, in addition to research-based knowledge.

Health:

Health is a broad concept that can be understood in different ways. The World Health Organization (WHO) has defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Other definitions describe being healthy as having excess energy compared with everyday demands (P. F. Hjort, 1994). In this context health can be understood as a *resource* that gives humans the strength to function and the resistance to stand up to the strains they are exposed to through life. Health can also be defined as the absence of illness or as well-being (Mæland, 1999). Health is said to be vital for the achievement of the potential self-realization of the individual or the population – health is not regarded as a goal in itself but as a resource for other purposes (Mæland, 1999).

Public health:

Meeting and working with patients who have complex needs requires knowledge of public health and public health work. Public health means "the state and distribution of health in a population" (Norwegian Public Health Act, 2011). The same Act defines public health work as "society's efforts to influence factors that directly or indirectly promote the health and well-being of the population; prevent mental and somatic illnesses, disorders or injuries; or that protect against health threats; as well as efforts seeking a more equal distribution of factors that directly or indirectly affect health". Public health work includes efforts within health promotion and disease prevention, treatment, rehabilitation and nursing/care.

Patient:

A patient is defined as "a person who contacts the health service requesting health care, or to whom the health service provides or offers health care as the case may be" (Norwegian Patients' Rights Act, 2010). In this programme description, the term patient is used for the person or persons for whom the dental hygienist provides health care. Health care is explained as "any act that has a preventive, diagnostic, therapeutic, health-preserving or rehabilitative objective and that is performed by health personnel" (Norwegian Health Personnel Act, 2010).

2.3 EDUCATION AND PERSONAL GROWTH

The dental hygiene programme offers knowledge through *education and personal growth*. Professional practice is in a state of constant change and development that is related to changes in societal needs. Learning must therefore be viewed in a life-long perspective. The study programme will not only make students capable of reproducing various types of knowledge, but also of acquiring a personal, reflective and critical attitude to this knowledge.

Students' *competence* is developed through the study programme and by practising the profession on completion of their education. Competence is made up of such factors as ethics, specialized knowledge and various skills. *Personal growth* can be understood as *having knowledge and ability,* and forms part of the student's personal skills. Growth can consist of *forming an individual's personality, abilities and his/her disposition, conduct and moral attitude through upbringing, environment and education.* In the study programme, personal growth represents students' insight into and understanding of themselves, and of how they relate to others and to society.

Reflection as a method of work is consciously used throughout the study programme. In order to learn from experience it is necessary to be able see this experience in a personal and general perspective. This is conditional on creating the space and opportunities that allow experience to be expressed both verbally and in writing, and on making the experience the object of analysis and reflection. This is facilitated through the public health subjects in general and through the education theory subject in particular.

3. THE PROGRAMME OF STUDY

3.1 NAME, PROGRAMME CODE AND PROFILE

Programme name: Bachelor of Science degree programme in Dental Hygiene

Programme code: 185 899

Profile:

Due to changes implemented in current health services, including the dental service, the study programme will have a *public health* profile and a health-promoting and disease-preventing perspective. Those who choose to study dental hygiene at the University of Oslo will undertake a study programme that is relevant to society and that is founded on society's needs for services in the field of dental health. These needs are laid down in health policy documents and in applicable legislation and regulations.

One advantage of the programme is that many of those in Norway who possess expertise in dentistry are affiliated to the Faculty. The study programme is distinguished by the variation and breadth of its odontological subject areas, as well as by its specialization in dental care. In addition, priority is given to personal reflection over one's actions, and to self study and satisfactory academic progress. The study programme aims to develop independent, aware and knowledgeable professionals.

3.2 FACULTY AFFILIATION, DEGREE CONFERMENT, AUTHORIZATION AND LANGUAGE FORM

The programme is affiliated to the Faculty of Dentistry at the University of Oslo.

On completion of the three-year programme, students are awarded the Bachelor of Science degree programme in Dental Hygiene and qualify for authorization as dental hygienists. The Faculty applies collectively for authorization for all graduating students through the Norwegian Registration Authority for Health Personnel. The issue of the authorization is dependent on the student's payment of the authorization fee. On successful completion of the programme, students receive their diploma at the Faculty's closing ceremony for graduating students.

The teaching is conducted in Norwegian throughout the three years of study with the exception of some lectures that are given in English. Some of the literature may be in other Scandinavian languages and English. The examination questions set for the courses included in the programme are in Norwegian, and in general the answers must also be in Norwegian, or in Swedish or Danish if relevant.

3.3 ORGANIZATION, SCOPE AND DURATION

The Bachelor of Science degree programme in Dental Hygiene is a full-time programme of professional study (180 credits) with a nominal length of study of three years. Each year of study is composed of two semesters defined in terms of courses – autumn and spring semesters – making a total of 40 weeks with the change of semester in January. The academic year starts in August and ends in June. The students must successfully complete each semester, cf. 4.2 Order of courses in the programme.

The Bachelor of Science degree programme in Dental Hygiene is a programme of professional study that in general consists of organized, compulsory teaching. Time is allowed for self study in addition to the timetabled teaching.

3.4 APPLICATION DEADLINE, ADMISSION REQUIREMENTS AND RULES FOR RANKING APPLICANTS

Students are admitted once a year through the Norwegian Universities and Colleges Admission Service. The deadline for application is 15 April, and for some applicant groups 1 March. Visit the website at http://www.samordnaopptak.no/info/english/

Admission requirements:

Higher education entrance qualification is normally required (requirement code GENS). There are no supplementary requirements for admission to the programme. Applicants who are aged 25 or over and who have not attained higher education entrance qualification can apply for admission on the basis of prior learning and work experience.

The teaching is conducted in Norwegian with the exception of some lectures that are given in English. To undertake the course of study, students must therefore possess adequate knowledge of Norwegian (or of another Scandinavian language) – as a minimum equivalent to the third year of upper secondary education. It is also an advantage for students to have had English and natural science (chemistry and biology) at third-year upper secondary school level as a minimum. See 1.1: Target group.

Criminal record certificate:

Applicants who are offered a place on this programme must submit a criminal record certificate, cf. Regulations concerning admission to higher education. A criminal record certificate contains information about a person's listings in the police registers.

Rules for ranking applicants:

Admission to the programme is regulated. Qualified applicants are ranked according to a points system. The rules for ranking are laid down in the Regulations concerning admission to higher education. Qualified applicants whose points cannot be calculated must be ranked in relation to applicants with calculated points by a discretionary assessment, cf. Regulations concerning admission to higher education.

3.5 REQUIREMENTS REGARDING PROGRESS

Rules for progress:

Students must normally follow the progress for the programme's fixed courses for each semester. Breach of the rules for progress may lead to loss of the right to study on the programme, cf. Regulations governing studies and examinations at the University of Oslo. More details on the rules for progress are given in Appendix 1.

Rules for absence:

Much of the learning on the programme takes place through attendance at theoretical and practical teaching sessions. An excessive rate of absence will therefore lead to non-fulfilment of the requirements regarding prerequisite knowledge, cf. rules for progress described above and in Appendix I. Rules concerning absence describe the rules that apply for the compulsory parts of the programme, absence limits for the various courses, and the consequences of a breach of the rules. A breach of the rules may lead to loss of the right to study on the programme, cf. Regulations governing studies and examinations at the University of Oslo.

More details on the rules for absence for the Bachelor of Science degree programme in Dental Hygiene are given in Appendix 1. These have been approved by the Programme Committee for Studies and Programmes.

Rules for taking leave of absence:

Guidelines for granting leave of absence for bachelor and master degree students at the Faculty of Dentistry at the University of Oslo are given in Appendix 1.

3.6 INTERNATIONALIZATION/EXCHANGE OPPORTUNITIES

One of the requirements of the University's Action Plan for Internationalization is that all programmes of study are to be given an international profile. Cooperation with international institutions is intended to increase both relevance and quality. Students can apply to take short programme components at a university abroad in accordance with specific guidelines, cf. web pages for the study programme.

4. CONTENT AND STRUCTURE OF THE PROGRAMME

4.1 ACADEMIC CONTENT, CORRELATIONS AND INTEGRATION

The study programme is based on the scope and content of the programme description and on the appendices to this.

A dental hygienist must be able to recognize the correlations between different subject areas and to combine knowledge from these areas. To achieve this, integration between several disciplines and between certain recurring topics is encouraged throughout the course of study, cf. Programme overview. Particular emphasis is placed on integrating public health work into all the courses during the three years of study. The requirement regarding integrated understanding and knowledge is further highlighted through several integrated examinations.

The study programme contains an introductory component (4.5), which has much in common with other courses of study in health and social subjects, and a specialization component (4.6 and 4.7) that is specific to this programme.

The introductory component includes various introductory courses, natural science courses, scientific theory, research method, ethics and academia. Medical and natural science courses form an essential platform for the understanding of specialization subjects and for the practice of the profession. We have therefore chosen to give high priority in the first part of the study programme to teaching foundation courses such as anatomy, physiology and human nutrition as well as clinic skills/introductory clinical instruction/preparatory clinical sessions.

The specialization component is composed of odontological courses and courses oriented specifically towards the profession of dental hygienist:

I Professional and evidence-based dentistry gives students insight into:

- the general and oral normal anatomy and physiology of human beings
- pathological conditions and processes, making diagnoses and treating disease in general and in the oral cavity in particular
- clinical dentistry subject areas

II Dental hygiene and the professional basis gives the students:

- insight into the profession's history, philosophy and work ethics
- knowledge of the development and learning of human beings, and of how human beings communicate and relate to each other
- tools to enable them to:
 - integrate knowledge from the other main courses
 - acquire an understanding of how health and illness are expressed, both individually and among groups of patients
 - build the understanding and competence required to practise the profession of dental hygienist, adapted to different patients and situations

Please see 4.5: Introductory courses and 4.6 - 4.7: Specialization courses I and II for more details of the academic content of the courses.

4.2 ORDER OF COURSES IN THE PROGRAMME

Bachelor of Science degree programme in Dental Hygiene, 180 credits

SEMESTER	COURSE DESCRIPTION				
6	TP3210 Public health and clin	nical TP329	<u>– BA</u>		
	specialization II	Bache	r assignment		
	Final theory and clinical				
	instruction/preparatory clinic	cal			
	sessions				
5	TP3100 Public health and clinical specialization I				
	Theme weeks, clinical instruction/preparatory clinical sessions, clinical dental care subjects,				
	public health, project work, practical training				
4	TP2200 Public health and practice II				
	Clinical instruction/preparatory clinical sessions, practical training, public health, clinical				
	dentistry				
3	TP2100 Public health and practice I				
	Clinical instruction/preparatory clinical sessions, practical training, public health, community				
	dentistry, clinical dentistry, pharmacology, pathology				
2	TP1200 Introductory dental care II				
	Clinical instruction/preparatory clinical sessions, clinical dentistry, public health, project				
	work, introductory courses, pathology				
I	EXPHIL03 - Examen	TP1100 Introductory dental care I			
	<u>philosophicum</u>	Introduction			
		Introductory courses, clinic skills/introductory clinical			
		instruction/preparatory clinical sessions, public health, clinical			
		dentistry			
	10 credits	10 credits	I0 crea	dits	

Course examinations are described in 6.1 Examinations, forms of assessment and examination results.

4.3 PROGRAMME OVERVIEW

Recurring topics represent important areas of the programme. Several of the topics require maturity and development through reflection and are therefore included in several courses and semesters during the course of study. The following subjects recur in several semesters:

Study year I		Study year 2		Study year 3		
Semester I	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	
		Public h	ealth I and II			
	Scientific theory and method, ethics					
	Odontological specialization courses					
	Dental hygiene and the professional basis					
	Clinic skills/introductory clinical instruction/preparatory clinical					
	Paediatr	ric oral health care: clinical instruction/preparatory clinical sessions and theory				
	Adult d	It dental/oral health care: clinical instruction/preparatory clinical sessions and theory				
			r people with function the elderly and chro	-		

See Appendix I, 4.4: Schematic diagram of the programme of study.

4.4 CREDITS – 180 in total

INTRODUCTORY COURSES (47 credits)	Credits
Ex.phil03	10
Scientific theory and method, academic writing course, ethics and critical use of sources	2
Clinic skills/introductory clinical instruction/preparatory clinical sessions	10
General biology and tooth morphology	10
Oral biology	5
Human nutrition	5
Pharmacology	5
SPECIALIZATION COURSES (133 credits):	Credits
I Professional and evidence-based dentistry (42 credits):	
Oral radiology	8
Pedodontics	5
Periodontology	7
Orthodontics	5
Cariology and endodontics	7
General and oral pathology, oral surgery/medicine and course in infiltration anaesthesia	8
Prosthetics and dental biomaterials/dental materials	2
II Dental hygiene and the professional basis (91 credits): Public health I:	
Adult dental/oral health care	25
Paediatric oral health care	15
Geriatric dental care	5
Dental care for the chronically ill, for people with functional impairments and	5
for rare medical conditions	6
Public health II:	
Health-promoting and disease-preventing measures	5
Psychology	3
Education theory	12
Community dentistry and work preparation	5
Bachelor assignment:	
Bachelor assignment	15

4.5 INTRODUCTORY COURSES

4.5.1 EXAMEN PHILOSOPHICUM – EXPHIL03

Credits:

10

Placement in the programme:

Semester 1 (must be passed by Semester 4 at the latest)

Academic content:

For a description of the academic content, learning outcome, teaching and learning methods and forms of assessment, see the website of the Department of Philosophy, Classics, History of Art and Ideas at the University's Faculty of Humanities: http://www.uio.no/studier/emner/hf/ifikk/EXPHIL03E/

The examination must be passed by the end of Semester 4.

4.5.2 SCIENTIFIC THEORY AND METHODS, ETHICS, ACADEMIC WRITING COURSE AND CRITICAL USE OF SOURCES

Credits:

2

Placement in the programme:

Semesters 1-6

Academic content:

Students learn how to conduct relevant searches for information and how to disseminate knowledge. Instruction is given on the critical assessment of sources and the use of source references in students' own work. Scientific theory and scientific methods are reviewed, and students gain an insight into various basic principles of research ethics, and into knowledge-based practice and the quality assurance of their own work. The teaching on ethics takes up ethical theories associated with reflection models, work ethics and relevant ethical dilemmas in professional practice. Students also learn about their professional role and responsibilities.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Know what characterizes scientific knowledge
- Be familiar with the scientific methods that are relevant for the health-related subjects
- Be familiar with ethical theories and concepts that are relevant for healthcare practice
- Understand academic/scientific texts

Skills attainment targets:

- Give an account of different forms of knowledge in health-related subjects, and discuss the relationship between theory and practice
- Apply relevant ethical theories, scientific principles and methods
- Use information technology to search for, employ and refer to academic literature/sources
- Write an academic assignment

General competence:

- Identify and reflect on ethical issues
- Discuss ethical issues in professional practice
- Be familiar with the profession's ethical guidelines

Teaching and learning methods:

Seminars, group work and self study. The teaching is compulsory.

Required coursework:

- Submission of assignments on ethics for the portfolio in Public Health II
- Completion of the BIBSYS course on the library system and archives for academic and research publications

Form of assessment:

Pass/Fail

4.5.3 CLINIC SKILLS/INTRODUCTORY CLINICAL INSTRUCTION/PREPARATORY CLINICAL SESSIONS

Credits:

10

Placement in the programme:

Semesters 1-2

Academic content:

Sound theoretical knowledge and practical skills are prerequisites for conducting a good clinical examination and for treating teeth and the oral cavity. The area of study is supported by the first clinical lectures in the specialization courses, instruction on the other specialization courses, and Public health I and II.

The teaching and clinical practice are intended to give students knowledge of the profession and of people skills to enable them to begin patient treatment. Giving treatment to a co-student and a patient forms part of the learning process.

Learning outcome:

Through this course dental hygiene students will practise basic manual dexterity skills, acquire professional knowledge and develop the appropriate attitudes.

On completion of the training, students will:

Knowledge goals:

- Understand the connection between plaque, caries, gingivitis and periodontitis
- Acquire knowledge of the early stages of caries and periodontal diseases
- Be able to define the terms supragingival and subgingival scaling
- Be familiar with health-promoting and disease-preventing measures
- Be qualified for clinical patient treatment through theory and clinical practice
- Have knowledge of hygiene in clinical work

Skills attainment targets:

- Be able to plan and carry out practical work on a phantom head/model, a co-student and patient
- Be able to use different medicines that contain fluorine
- Be able to keep patient records in accordance with existing legislation and relevant regulations
- Be able to classify fillings and the steps in polishing tooth-coloured fillings

- Be able to use an angle handpiece, select and use different material adapted to the treatment
- Be able to set up instruments
- Be able to practise clinical and hygiene routines in their clinical activities, e.g. hand washing, correct use of gloves and surface disinfection
- Be able to take X-rays (BW and apical images)
- Be familiar with digital image processing procedures/handling images
- Be able to employ dental nomenclature

General competence:

 Have acquired a basic understanding of the professional practice of dental hygienists and of the importance of professional ethics in their work with patients

Teaching and learning methods:

Seminars, demonstrations, practice on models and co-students, simple patient treatment and self study. The teaching is compulsory.

Required coursework:

- Semester tests I and II
- Clinic skills requirements as described in a separate plan

Forms of assessment:

The clinical assessment is based on defined skills attainment requirements. In addition students' attitudes and professional conduct are evaluated. Theoretical tests must be passed.

Semester tests I and II must be approved before students can begin patient treatment, and are a prerequisite for further studies.

4.5.4 GENERAL BIOLOGY AND TOOTH MORPHOLOGY

Credits:

10

Placement in the programme:

Semester 1

Academic content:

The teaching consists of tooth morphology, chemistry, physics, cytology and general anatomy/physiology. This instruction gives students the basic prerequisite knowledge for oral biology, general and oral pathology and for the clinical subject areas that are taught in later semesters.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

Tooth morphology:

- Be able to describe the morphology of individual teeth in both general and particular terms, and be familiar with the terminology for individual teeth and for the set of teeth as a whole
- Be able to use the FDI dental numbering system to define teeth

Chemistry:

Have basic knowledge of

- Atoms, elements and molecules
- Chemical bondings
- Chemical reactions, forces in chemical reactions, relative amounts in chemical reactions and chemical balance
- Chemical reactions in the oral cavity (redox reactions, hydroxyapatite balance and pH)

- pH, buffers and buffer solutions
- Bicarbonate system with saliva as the starting point
- Organic chemistry
- Cytology and anatomy/physiology:

Be able to explain the structure and functions of the body by

- Describing the cell (including knowledge of DNA, RNA, protein synthesis, mitosis and meiosis)
- Give an account of the tissues
- Give an account of the anatomy and physiology of the organ systems: the nervous system, the senses, the endocrine system, the skeleton, musculature, the circulatory system, the blood, the respiratory system, the digestive system and metabolism, temperature regulation, the kidneys, the urinary tracts and the reproductive system

Skills attainment targets:

Tooth morphology:

- Be able to give a short description of each permanent tooth and the milk molars
- Be able to identify human teeth
- Chemistry:
- Be able to do simple calculations in topics such as formula weight, concentration, mole, molar mass and pH

General competence:

 Be able to communicate with those in the dental health team and those outside the team by employing relevant dental terms and concepts of general biology

Teaching and learning methods:

Lectures, seminars, demonstrations, practical exercises, PBL assignments, group work and self study. All teaching is compulsory.

Required coursework:

- Test in tooth morphology
- Assignments

Forms of assessment:

In tooth morphology a test is held in tooth determination that is assessed as Pass/Fail.

The examination for general biology is divided into two: TP1100 in Semester 1 and TP1200A in Semester 2. The TP1100 exam is integrated with the subject of human nutrition.

- TP1100: a four-hour written examination in general biology and human nutrition
- TP1200A: a four-hour written examination in general biology II and chemistry

Both examinations are graded with the letter grades A – F.

4.5.5 ORAL BIOLOGY

Credits:

5

Placement in the programme:

Semester 2

Academic content:

The teaching includes oral macroscopic and microscopic anatomy and oral physiology. Knowledge in the fields of oral anatomy and physiology is fundamental and is a prerequisite for enabling students to acquire knowledge from the odontological courses later in the programme. Instruction is also given in microbiology and

immunology. Microbiology plays a major role in the understanding of caries and periodontitis and is introduced early in the course. Non-specific and specific immune defence and the dissemination of disease are introduced in the final part of the teaching.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

Oral macroscopic anatomy:

- Be able to give an account of the anatomy of the oral cavity and adjoining areas (the head and throat), including muscles, nerve tissue, blood vessels and the lymph system
- Be able to describe and identify the individual bones of the cranium and give a detailed description of the upper and lower jaws, as well as identifying the structure of these
- Be able to define occlusion concepts and to give a description of the anatomy and movement of the jaw joint
- Be able to give an account of the location and macroscopic structure of the large salivary glands Oral microscopic anatomy:
- Have detailed knowledge of tooth development, including the development of enamel, dentine and cementum and of the root
- Be able to describe enamel, and the microscopic structure of the dentine and pulpa
- Have thorough knowledge of the periodontium, including the periodontal ligament, the alveolar bone, the cementum and the gingiva
- Be able to give an account of the shedding of teeth and dentition
- Be able to describe the microscopic structure of the oral mucosa and the salivary glands
- Physiology:
- Acquire an overview of pulpa and periodontal physiology, including tissue pressure and volume of fluid
- Have some knowledge of axon reflex, theories for pain perception, and the function of PDL receptors as sensory organs
- Be able to describe the physiology of the salivary gland with regard to regulating secretion and to saliva content and function
- Oral neuromuscular function:
- Be able to give an account of the muscle groups that are of importance for oral movements
- Be able to give an account of the function of the joints in oral reflexes and of the most important functions of the reflexes
- Be able to give an account of chewing movement and swallowing

Microbiology:

- Know about the structure and characteristics of bacteria, viruses and fungi
- Be familiar with the ecology of the oral cavity
- Have knowledge of microbial adhesion and the prevention of plaque-mediated disease, with emphasis on caries and periodontal disease
- Be familiar with oral infections caused by fungi or viruses
- Be familiar with bacteria resistance, resistance determination and antimicrobial agents
- Have knowledge of different measures to prevent contagion and infection, and discuss some aspects of hygiene

Defence against infection:

- Have insight into non-specific and specific defence mechanisms, including in particular immune defence against the microflora associated with periodontal disease
- Have knowledge of the defence of body surfaces: the skin and mucosa, with emphasis on the oral cavity
- Have knowledge of the defence of tissue and blood: leukocytes, congenital and non-specific defence mechanisms, inflammation, induced defence and signs of infectious disease
- Be familiar with immunization

Skills attainment targets: Microbiology:

- Take clinical samples (oral cavity) and be familiar with procedures for despatching samples
- Be familiar with microorganisms (microscopy, cultivation and gene materials)

General competence:

- Be familiar with laboratory routines
- Regard and handle human specimens with respect, including when studying specimens and models in the laboratory

Teaching and learning methods:

Lectures, demonstrations, practical exercises, group work and self study. All teaching is compulsory.

Form of assessment:

TP1200B: a four-hour written examination in Semester 2 in oral biology to be graded with the letter grades A – F.

4.5.6 HUMAN NUTRITION

Credits:

5

Placement in the programme:

Semester 1

Academic content:

Human nutrition is important for providing dietary guidance with regard to dental health and general health and also in the public health perspective. Emphasis is placed on giving students a basic introduction to a healthy lifestyle, diet and physical activity and on encouraging them to take part in interdisciplinary collaboration.

The teaching includes the importance of nutrients, the structure of energy-giving nutrients and their function, occurrence and needs. Priority is also given to the basic principles of a healthy diet, planning meals and the significance of a diet that is correctly composed nutritionally, nutrient recommendations and dietary advice given by the authorities. These factors are discussed and compared with various diets presented by other nutrition experts in the field of study. Initiatives in community nutrition targeting the general public are discussed, and an introduction is given in nutrient calculation and the need for individual nutrients.

Instruction is also given on the spread of diet-related diseases in the population and on how these factors can be influenced through nutrition, physical activity and health. The students are given a project assignment in dietary guidance which presents the guidance and teaching of different groups with particular emphasis on children, adolescents, those with a multicultural background, people with special functional impairments and chronic illness, substance abusers, pregnant women and the elderly. Students present their own work for their fellow students and lecturers.

Nutrition is integrated into several subject areas, e.g. cariology, paediatric and adult dental/oral health care, and geriatric dental care.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Have detailed knowledge of the significance, function and occurrence of the most important nutrients and the importance of regular meals, the correct composition of meals and a varied selection of foodstuffs
- Have detailed knowledge of the fundamental principles of a health-promoting diet and of the interaction between diet and physical activity

— Have knowledge of and recognize the correlation between diet, health and lifestyle

Skills attainment targets:

- Be able to apply their knowledge of and skills in nutrition
 - In their practice of the clinical part of the dental care profession
 - In health-promoting and disease-preventing measures in general
- Be able to give recommendations for a nutritionally correct diet for good dental health based on applicable guidelines
- Be able to use programmes that calculate diet

General competence:

- Have the professional insight to raise their own awareness of diet, and thus the confidence to practise dietary guidance
- Keep in mind the applicable recommendations and dietary advice drawn up by the National Nutrition Council

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Seminars, problem-solving tasks, group and project work and self study. All teaching is compulsory.

Required coursework:

- Project assignment on dietary advice
- Presentation of students' own projects

Form of assessment:

TP1100: a four-hour integrated written examination in Semester 1 in general biology I and human nutrition to be graded with the letter grades A - F.

4.5.7 PHARMACOLOGY

Credits:

5

Placement in the programme: Semester 3

Academic content:

Pharmacology/pharmacotherapy is the science of pharmaceuticals and their mechanisms of action, including their clinical effects, and how they are to be used in the clinic. As a discipline and research area, pharmacology is soundly rooted in basal biomedical subjects with particular emphasis on the dental hygienist's tasks within clinical dentistry. The objective is to create a rational foundation for good use of medication.

Pharmaceutical toxicology concerns the harmful effects of pharmaceuticals and is taught to dental hygiene students as a limited part of pharmacology/pharmacotherapy.

The application of knowledge in the field of pharmacology and pharmacotherapy is at all times limited by the regulations and legislation that define or demarcate the dental hygienist's professional practice in health-related subjects. Dental hygienists must possess knowledge of pharmacology, with special emphasis on pharmaceuticals that can influence dental treatment and non-prescription drugs used or recommended for use after treatment. In addition they must be familiar with pharmaceuticals that are used in dental activities and by patients undergoing medical treatment.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Be able to give an account of pharmacokinetic and pharmacodynamic terms, response, types of pharmaceuticals, interactions, the side-effects of pharmaceuticals, and dosage
- Be familiar with pharmacodynamics with regard to elderly patients, pregnant women, children and nursing mothers
- Have knowledge of how the catalogue of pharmaceuticals that are marketed in Norway (*Felleskatalog*) is divided up and organized, and of other aids, nomenclature, prescriptions and rules for prescriptions
- Have knowledge of the nervous system, analgesics, sedatives and other drugs that affect the central nervous system
- Have knowledge of and be able to use dental local anaesthesia
- Have knowledge of anti-inflammatory drugs
- Have knowledge of antibiotics, antimycotics, antiviral drugs and oral disinfectants
- Have knowledge of pharmaceuticals for heart and circulatory diseases
- Have knowledge of other pharmaceuticals

General competence:

 Have an ethical approach to drug use that at all times complies with the regulations that apply for pharmaceuticals in Norway

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Lectures, seminars, problem-solving tasks and self study. All teaching is compulsory.

Form of assessment:

TP2100B: a four-hour individual written examination in Semester 3 in pharmacology to be graded with the letter grades A – F.

4.6 SPECIALIZATION COURSES I: PROFESSIONAL AND EVIDENCE-BASED DENTISTRY

4.6.1 ORAL RADIOLOGY

Credits: 8

Placement in the programme: Semesters 1-4

Academic content:

Sound theoretical knowledge and practical skills in oral radiology are a prerequisite for conducting a good clinical examination of teeth and the oral cavity. Considerable requirements are set to technical performance to ensure that an X-ray examination contributes to good diagnostics of teeth and periodontal tissue. Dental radiographic diagnostics is based on knowledge of subjects such as radiation physics, chemistry, anatomy, general and oral pathology.

The teaching aims to establish a firm foundation for dental hygienists' subsequent practice. In Semesters 1-4 the students acquire a professional basis that enables them to produce technically good X-rays through instruction in the techniques of taking intra-oral images and handling X-ray images. Students learn to examine intra-oral X-rays, to recognize normal anatomical structures and pathological conditions, and to diagnose

caries, marginal periodontitis and apical periodontitis. Students will learn to detect image errors and to be able to adapt viewing conditions.

The discipline is integrated into other clinical subject areas.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Have knowledge of basic radiation physics and radiation biology
- Have knowledge of radiation protection and the applicable legislation
- Have knowledge of X-ray apparatus for intra-oral X-ray examinations

Skills attainment targets:

- Be able to use the correct techniques for taking X-rays and for handling X-ray images
- Be able to examine intra-oral X-ray images systematically with emphasis on normal anatomy and diagnostics of the teeth and periodontal tissue

General competence:

 Students must adopt a restrictive attitude to the use of diagnostic X-rays so that patients are not exposed to unnecessary X-radiation

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Lectures, seminars, self study, demonstrations, interactive image examination and clinical practice. All theoretical and clinical teaching is compulsory.

Required coursework:

- Compulsory test

Forms of assessment:

Clinical practice is assessed as Pass/Fail. The practical training and other required coursework must be passed before the student is enrolled for the written exam.

TP2200: a four-hour written exam in Semester 4 in oral radiology to be graded with the letter grades A – F.

4.6.2 PEDODONTICS

Credits:

5

Placement in the programme: Semesters 2-5

The teaching is given parallel with the profession-oriented subject area of paediatric oral health care, see 4.7.1 Public health 1, and the course gives a total of 20 credits.

Academic content:

Pedodontics concerns the dental health of children and adolescents. The teaching forms the basis for the profession-specific discipline of paediatric oral health care, which is described in the Dental hygiene and the professional basis section, Public health I.

The instruction includes pedodontic cariology with emphasis on diagnostics in primary teeth, young permanent teeth and mixed dentition, and on traumatology, dentition, disturbances of tooth development and on how

different somatic diseases, functional impairments, syndromes and other chronic conditions affect oral health. Emphasis is also placed on failure in care and on dental fear and behaviour management problems (BMP), collaboration between various professions and the dental hygienist's responsibilities.

Cariology, orthodontics and oral radiology are integrated into the subject area.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Have knowledge of diagnostics for children and adolescents
- Have knowledge of the most common diseases of the oral cavity and teeth among children and adolescents, and be able to prevent these and identify indications for different types of treatment
- Have knowledge of caries in primary and young permanent teeth
- Be able to give an account of caries treatment for primary teeth
- Be familiar with traumatology
- Be able to give an account of and describe dentition disorders and disturbances of tooth development
- Have knowledge of dental erosion
- Have knowledge of eating disorders
- Be familiar with how different somatic diseases, functional impairments, syndromes and other chronic conditions affect oral health
- Be familiar with the tasks and responsibilities of the dental hygienist when failure of care and child abuse are suspected
- Have knowledge of fear of dental treatment, anxiety, phobia and pain control
- Have knowledge of the prevention of dental fear and behaviour management problems (BMP) among children

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Lectures and self study. The teaching is mainly compulsory.

Required coursework:

- A pass in the semester test

Form of assessment:

TP3210A: a five-hour written integrated exam in Semester 6 in pedodontics and orthodontics to be graded with the letter grades A - F.

4.6.3 PERIODONTOLOGY

Credits:

7

Placement in the programme:

Semesters 1-6

Academic content:

Periodontology is one of the fundamental clinical dentistry subject areas in the study programme. The teaching includes the study of the periodontal attachment system, diseases of the tissue that surrounds the teeth, and diagnosing, preventing and treating these diseases.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Have knowledge of marginal periodontium
- Have knowledge of and be able to diagnose common forms of gingivitis
- Have knowledge of the most frequent forms of periodontitis and other periodontal diseases
- Have knowledge of periodontal diagnostics and differential diagnoses
- Be familiar with etiological factors, pathogenesis and treatment alternatives

Skills attainment targets:

- Be qualified to apply the correct principles in the prevention and treatment of disease conditions in the periodontal attachment system
- Be able to use knowledge and skills in the field of oral radiology in diagnostics
- Be able to take bacteria samples and interpret test results in collaboration with dentists
- Be qualified to motivate patients to reduce tobacco use

General competence:

— Refer conditions that are not included in their field of competence to others

Students must also be familiar with periodontal surgical methods, dental implants, the regeneration of periodontal tissue, epidemiology, general diseases and periodontitis.

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Lectures, seminars, a period as a guest student with a specialist/candidate on a specialization programme in periodontology, problem-solving tasks and self study. The theoretical teaching is given parallel with the clinical skills training at student clinics and elsewhere in the practice field. The teaching is mainly compulsory.

Required coursework:

- Compulsory assignments
- Assisting a specialist or a candidate on a specialization programme with patient treatment/surgery

Form of assessment:

TP3210B: a five-hour written integrated exam in Semester 6 in the subject areas periodontology, cariology, endodontics, prosthetics and biomaterials/dental materials to be graded with the letter grades A - F.

4.6.4 ORTHODONTICS

Credits:

5

Placement in the programme:

Semesters 3-6

Academic content:

The teaching includes facial and mandibular growth, occlusion development, and different forms of malocclusion and their causes. Instruction is also given in treating congenital and acquired bite and dentition anomalies, for example in cases of dental agenesis and retinated teeth.

The teaching is intended to make students capable of diagnosing all types of dentition and occlusion anomalies

in children and adolescents. In addition students will be able to assess the need for orthodontic treatment and when to refer a patient to a specialist. Students must also be able to plan and implement health-promoting and disease-preventing measures related to orthodontic treatment. They must be able to assess the need among adults for orthodontic treatment alone or in combination with other disciplines.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Be able to describe and diagnose the most common occurrences of malocclusions
- Have knowledge of different forms of orthodontic appliances
- Have knowledge of criteria for initiating treatment of the various malocclusions
- Have knowledge of routines and of when to refer a patient to an orthodontist
- Have knowledge of orthodontic treatment for adults, particularly in connection with extensive surgical and/or prosthetic therapy and periodontal diseases
- Be familiar with the possibilities and limitations of orthodontic treatment for those with functional impairments
- Be familiar with clefts of the lip, jaw and palate, and of other cranofacial deformities and the treatment of these

Skills attainment targets:

- Be able to describe and assess the need for treatment in an objective and a subjective perspective
- Be qualified to inform patients and relatives about orthodontic treatment
- Be able to check retainers
- Be qualified to plan and monitor preventive measures

General competence:

- Be qualified to refer patients to an orthodontist
- Have knowledge of rules for receiving refunds

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Lectures, seminars, work course, clinic and self study. Students spend a period as guest students with a candidate on a specialization programme in orthodontics for individual patient cases. Some of the teaching takes place in collaboration with the subject area of paediatric oral health care (pedodontology).

Required coursework:

- Clinical practice at the Section of Orthodontics/Clinic for General Dentistry Children
- Compulsory group assignment in Semester 4

Form of assessment:

TP3210A: a five-hour written integrated examination in Semester 6 in the subject areas pedodontics and orthodontics to be graded with the letter grades A - F.

4.6.5 CARIOLOGY AND ENDODONTICS

Credits:

7

Placement in the programme:

Semesters 1-6

Academic content:

Cariology includes the study of caries and other diseases and of damage to the hard tooth tissue. It is one of

the fundamental clinical dental care subject areas in the study programme. The teaching emphasizes the description of caries etiology (causal relations), epidemiology, the caries process and diagnoses, differential diagnoses and treatment planning. In addition different disease-preventing and health-promoting measures are given priority at individual and group levels, for example dietary advice, use of fluorine and chemical plaque-control agents.

Endodontics includes the prevention and treatment of the disease apical periodontitis. In practice this concerns diagnosing and treating nervous and periapical diseases, as well as pain conditions that originate from teeth and jaws.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Be able to give an account of the caries process and of factors that can result in caries
- Have knowledge of methods for plaque control
- Have knowledge of and be able to describe clinical and radiographic images of primary and secondary caries
- Have knowledge of the clinical use and effect of fluorine
- Be able to give an account of diagnostic methods for caries and principles for treatment
- Be able to give an account of etiological factors of caries and of localizations of primary and secondary caries
- Be able to give an account of tooth wear, including types of dental erosion, attrition and abrasion
- Be able to give an account of the function of saliva
- Be familiar with various forms of toothache, causes and pain diagnostics
- Be familiar with periapical diagnostics

Skills attainment targets:

- Be able to justify different preventive and health-promoting measures
- Be able to carry out non-operative caries therapy
- Be able to make caries diagnoses, both clinically and radiographically
- Be able to assess caries activity, the need for treatment and prognosis
- Be able to recognize dental fluorosis and indicate possible measures
- Make pain diagnoses clinically and radiographically in collaboration with a dentist
- Be able to treat peripheral dentine hypersensitivity
- Be able to conduct follow-up examinations after endodontic treatment

General competence:

- Refer conditions that are not included in their field of competence to others

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Lectures, seminars, mandatory reading and self study. The theoretical teaching is given parallel with the clinical skills training at student clinics and elsewhere in the practice field. The teaching is mainly compulsory.

Required coursework:

- Compulsory assignments

Form of assessment:

TP3210B: a five-hour written integrated examination in Semester 6 in the subject areas periodontology, cariology, endodontics, prosthetics and biomaterials/dental materials to be graded with the letter grades A – F.

4.6.6 GENERAL PATHOLOGY, ORAL PATHOLOGY AND ORAL MEDICINE/ SURGERY WITH A COURSE IN INFILTRATION ANAESTHESIA

Credits:

8

Placement in the programme:

Semesters 2, 3 and 5

Academic content:

General pathology:

Students will learn about general reaction types in the organism such as inflammations, tumours and circulatory disturbances. In addition, we will study the most common diseases that can affect organs such as the brain, the cardiovascular system, the respiratory system, the digestive system, the liver, the kidneys and the urinary tract, bone diseases and haematologic diseases.

Oral pathology:

Students will learn about the most common oral mucosal diseases (red and white lesions of the oral mucosa, vesicular and ulcerative diseases, and general diseases with oral manifestations). Moreover, the most frequently occurring benign and malignant odontogenic tumours in the jaws and mucosa, including salivary gland tumours and other salivary gland disorders, are reviewed. Instruction is also given on growths and hyperplasia, jaw cysts, pulp cavity diseases, apical periodontitis, osteomyelitis and pericoronitis. The etiology, pathogenesis, and clinical and microscopic profiles are presented together with treatment and prognosis. Forensic pathology and odontology, and techniques when performing biopsies are also covered. Instruction is also given on dental hygienists' legal responsibilities and on the importance of keeping accurate records.

Oral medicine/surgery:

Teaching in this subject area is closely linked to pathology and pharmacology. A clinical course is held in the use of infiltration anaesthesia as well as a course in cardiopulmonary resuscitation. In addition, lectures are given on pain concepts/theories, the most common oral medicine diseases and diagnostic methods. Instruction is provided in the diagnosis of oral medicine conditions, the most usual oral surgery treatments, infection control and asepsis. Through the teaching, students acquire insight into the function, structure and organization of the specialist health service.

Students learn how to screen patients with oral implants prior to operations, with a focus on areas such as antibiotic prophylaxis, use of medication and the like.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Have knowledge of the most common diseases and general pathological reaction mechanisms in the organism
- Be familiar with the normal anatomy of oral mucosa and be able to describe deviations from this
- Be familiar with the most common types of oral surgery and treatment options
- Have knowledge of the most common oral diseases and local mucosa diseases
- Have knowledge of the most common general diseases that can manifest themselves in the oral cavity
- Be familiar with the most common forms of acute and chronic odontogenic infections/inflammation
- Be familiar with the key pain concepts and theories
- Be familiar with oral medicine diagnostics and methods
- Have knowledge of differential diagnoses, etiology and treatment

- Know the principles for aftercare following surgical intervention, including after dental implant procedures
- Have knowledge of the most common postoperative complications
- Have knowledge of infection control and asepsis

Skills attainment targets:

- Have the competence to carry out resuscitation and to use adrenaline auto-injectors
- Have the competence to use infiltration anaesthesia
- Be able to identify patients at risk
- Be able to plan and follow up health-promoting and disease-preventing measures for patients with implants

General competence:

- Be able to understand the findings of histopathological examinations
- Have the skills to assess whether a patient should be referred to a specialist

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Lectures, seminars/courses, demonstrations, practical work, assignments, virtual microscopy, group work, clinical studies and self study.

The training is mainly compulsory.

Required coursework:

- Courses in infiltration anaesthesia and cardiopulmonary resuscitation
- Mandatory assignments (pathology)

Forms of assessment:

The course in infiltration anaesthesia is assessed as Pass/Fail.

TP2100A: A four-hour written integrated examination in Semester 3 in the following subjects: general/oral pathology, and oral medicine/surgery, to be graded with the letter grades A - F.

4.6.7 PROSTHETICS AND ODONTOLOGICAL BIOMATERIALS/ DENTAL MATERIALS

Credits:

2

Placement in the programme:

Semesters 5 and 6

Academic content:

The teaching will provide a short description of fixed and removable prosthetics and the materials that can be used for prosthetic treatment. A course will be held in dental impression-taking techniques and creating plaster moulds. Biomaterials will be discussed in connection with teeth replacements. In addition, instruction is given on aesthetic dental hygiene, including a course on tooth-whitening procedures.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

Removable prosthetics:

— Be able to give an account of traditional removable prosthetics

- Be able to diagnose complications of this form of treatment, for example discomfort caused by rubbing of the prosthetics
- Fixed prosthetics:
- Be able to give an account of the most common forms of fixed prosthetics
- Be able to diagnose the complications arising from this form of treatment, for example fixing crowns with temporary cement
- Dental materials:
- Know about the most common dental fillings materials
- Know about the most common materials when making odontological prosthetics
- Have knowledge of the advantages, weaknesses and side-effects of the materials
- Tooth whitening:
- Know the various tooth-whitening materials

Skills attainment targets:

Removable prosthetics:

- Have the skills required to carry out maintenance care on traditional removable prosthetics
- Be able to carry out emergency repairs on removable prosthetics
- Be able to deal with complications arising from this form of treatment, for example discomfort caused by rubbing of the prosthetics

Fixed prosthetics:

 Have the skills required to diagnose complications arising from this form of treatment, for example fixing crowns with temporary cement

Tooth whitening:

- Be able to take an impression and create a plaster model
- Be able to make tooth-whitening moulds and carry out tooth whitening in accordance with current regulations

General competence:

 Have the skills required for individual assessment of the need for tooth whitening on clinical and aesthetic grounds.

Teaching and methods of working:

Lectures, seminars, courses, demonstrations and self study. All teaching is compulsory.

Required coursework:

- Course on taking dental impressions and creating models
- Course on tooth whitening

Form of assessment:

TP3210B: A five-hour written integrated examination in Semester 6 in the following subject areas: periodontology, cariology, endodontics, prosthetics and biomaterials/dental materials, to be graded with the letter grades A - F.

4.7 SPECIALIZATION COURSES II: DENTAL HYGIENE AND THE PROFESSIONAL BASIS

Introduction to public health

Dental hygiene as a professional field plays a vital role in public health work, and therefore we have chosen to describe the remaining subject areas in the programme under the collective terms: Public health I and II. Public health has a wide scope and can be defined as described under 2.2: Knowledge base. The theoretical component of the programme of study comprises courses in basic medicine, natural sciences and odontology

as well as courses in social and behavioural sciences. Teaching in Public health I and II is based on a professional dental care context.

4.7.1 PUBLIC HEALTH I

Public health I deals with the medical-odontological approach to dental hygiene as a professional field:

- Adult dental/oral health care
- Paediatric oral health care
- Geriatric dental care, dental care for the chronically ill, for people with functional impairments and for rare medical conditions

ADULT DENTAL/ORAL HEALTH CARE

Credits:

25

Placement in the programme:

Semesters 2-6

Semester 2

Academic content:

Adult dental/oral health care comprises introductory teaching in clinical subject areas on which clinical practice is based such as cariology, periodontology, prosthetics and oral radiology. Building clinical skills is of central importance. At the same time emphasis is placed on developing conduct and attitudes that are consistent with the professional role of a dental hygienist.

Learning outcome:

On completion of the training, students will:

Knowledge goals

- Know the pathological picture of the normal anatomy of the oral cavity
- Be knowledgeable about patient communication
- Be familiar with various health-promoting and disease-preventing measures in clinical work

Skills attainment targets:

- Be able to diagnose and plan treatment under supervision
- Be able to conduct extra-oral and intra-oral examinations of adults
- Be able to draw up a treatment plan and carry out basic treatment under supervision
- Be able to apply knowledge of cariology, radiology, periodontology, orthodontics and prosthetics in a clinical setting
- Be able to employ odontological terminology when giving guidance

General competence:

- Show interest in and be able to benefit from supervision
- Show respect, empathy and the ability to listen to patients
- Show respect for fellow students and staff employed in the clinic
- Demonstrate appropriate clinical conduct and adhere to rules on hygiene
- Understand what is meant by clinical administration, and practise in accordance with this
- Act in accordance with professional codes of ethics

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Seminars, clinical practice under supervision, and self study. All teaching is compulsory.

Forms of assessment:

On the basis of the description of the learning outcome for adult dental/oral health care, students are continually assessed in relation to clinical skills, knowledge, attitudes and professional conduct. Clinical instruction/preparatory clinical sessions is assessed as Pass/Fail. A pass grade in this subject is a prerequisite for continuation of the programme of study.

Semesters 3 - 4

Academic content:

In the second year of the programme, there are higher requirements for students' abilities to plan, prioritize, reflect and evaluate their own work. Requirements as to students' clinical skills, knowledge and attitudes are increased. Experience from supervised practical training in the public sector and private dental health services, as well as in dental care for people with functional impairments, the elderly and those who are chronically ill, is integrated into adult clinical instruction/preparatory clinical sessions. Students must acquire theoretical knowledge and manual skills that enable them to carry out an overall evaluation of the patient, to make a diagnosis, and to plan and implement treatment for adult patients.

Learning outcome:

On completion of the training, students will:

Knowledge goals

- Understand the importance of health-promoting and disease-preventing measures in the clinic
- Have knowledge of different treatment strategies
- Be familiar with differential diagnoses
- Have knowledge of patients at risk

Skills attainment targets:

- Be able to communicate with patients and health professionals
- Be able to treat patients in time independently
- Be able to integrate theory from other clinical subject areas
- Be able to integrate competence in public health in order to:
 - o make patients aware of their own health situation
 - \circ $\;$ advise patients on making satisfactory choices regarding their own dental health

General competence:

- Demonstrate the ability to reflect on one's own learning and professional practice, and show interest in this
- Be aware of principles of work ethics and professional conduct, and adopt a critical/analytical attitude to professional practice
- Demonstrate professional progress in the clinic vis-à-vis the supervisor

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Seminars, clinical practice under supervision and self study. All teaching is compulsory.

Required coursework:

- Compulsory assignments

- Quantity requirements

Forms of assessment:

Students are continually assessed in relation to clinical skills, knowledge, attitudes and professional conduct on the basis of the description of the learning outcome for adult dental/oral health care. Clinical instruction/preparatory clinical sessions is assessed as Pass/Fail. A pass grade in this subject is a prerequisite for continuation of the programme of study.

Semesters 5 - 6

Academic content:

In the third year of study, there are higher requirements for students' clinical skills, knowledge and general competence. During the final year, students must acquire considerable theoretical knowledge and manual skills. They must also be able to carry out an individual and general evaluation of the patient, to make a diagnosis, and to plan and implement treatment for different groups of patients. After the third year of study students shall have sufficient breadth in their professional knowledge to be able to plan, prioritize, reflect and critically evaluate their own work.

Learning outcome:

Students must further develop knowledge, skills and attitudes based on the learning outcome described under Semesters 3 – 4. Students are expected to show progress and to demonstrate a broad theoretical knowledge in the clinic. They must acquire thorough knowledge of public health work and use this in practice. Considerable requirements are set for independence in clinical work and for the ability to employ medical-odontological terminology in interaction with other health professionals.

On completion of the training, students will:

Knowledge goals

- Demonstrate broad knowledge of all subject areas related to adult dental/oral health care
- Show a wide knowledge and understanding of the patient's pathological picture
- Know about endodontological diagnostics and treatment
- Have knowledge of risk factors and take these into account when treating patients
- Be familiar with referral procedures

Skills attainment targets:

- Be sufficiently competent to communicate knowledge of public health in the clinic to the patient and other health professionals
- Be confident when communicating with patients and when disseminating their own expertise
- Be able to justify the choice of treatment strategies
- Be able to diagnose caries and periodontal disease independently
- Be able to diagnose pulpal pain and assess referral to a dentist
- Be able to assess patient treatment in an overall perspective and make independent decisions
- Be able to employ medical and odontological terminology when communicating with others in healthrelated professions

General competence:

 Be familiar with legislation regulating the responsibilities of the dental health service and the responsibility of authorized dental hygienists

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Seminars, clinical practice under supervision and self study. All teaching is compulsory.

Required coursework:

- Compulsory assignments
- Quantity requirements

Forms of assessment:

Students are continually assessed in relation to clinical skills, knowledge, attitudes and professional conduct on the basis of the description of the learning outcome.

A final evaluation of students is carried out based on their work with a patient during the academic examination. A pass grade for clinical instruction/preparatory clinical sessions is required to attain a pass grade for the semester.

Clinical instruction/preparatory clinical sessions is assessed as Pass/Fail.

PAEDIATRIC ORAL HEALTH CARE

Credits: 15

Placement in the programme:

Semesters 2 - 6

Teaching takes place parallel to the odontological specialization Pedodontics, see 4.6: Specialization courses, and the course gives 20 credits altogether.

Academic content:

Paediatric oral health care is based on odontological specialist knowledge combined with awareness of preventive work. Treatment of children as patients demands respect and tolerance for the child's reactions to dental treatment and an understanding of the parents' reactions in the treatment situation. The evaluation of the ethical and psychological aspects of the treatment must be combined with a sound professional basis. Requirements for the ability to plan, prioritize, reflect and assess one's own work increase over the course of the programme. Emphasis is placed on attitudes and conduct consistent with the professional role of the dental hygienist.

The teaching includes practice in the public dental service. Students must be prepared to undertake a fairly long period of practical training at a location other than their home town, cf. 5.3 The practical training field.

Semester 2:

Students are given an introduction to the subject, and children's normal development is emphasized. There is a special focus on development in the oral cavity. The teaching mainly deals with the most common diseases of the oral cavity and dental diseases in children, and with the prevention of these diseases. The building of clinical skills plays a key role.

Semesters 3 - 4:

The teaching focuses on dental anomalies and building clinical skills. Instruction is given on pedodontological cariology, normal tooth development, tooth eruption and shedding of teeth, developmental disorders, normal occlusion and malocclusions, oral medical conditions, traumatology and erosions. During the second year of study, this subject area is implemented as part of public health work including through practical training. Teaching covers the responsibilities of the public sector dental health service, interaction with other health professionals and legislation upholding children's rights.

Semesters 5 - 6:

The teaching directs more attention to the treatment of the primary teeth and mixed dentition, and to children with a variety of needs. Dental fear and behaviour management problems, disorders of bone mineralization and traumatology have a central focus. The building of clinical skills continues. Students are expected to show

progress and broad theoretical knowledge in the clinic. They must be able to apply their knowledge of public health work in practice. Considerable requirements are set for independence in the clinical work.

Learning outcome:

On completion of the training, students will:

Knowledge goals:

- Have knowledge of normal development in children and adolescents cognitive, emotional and social
- Know the key features of Norwegian child health policies
- Be familiar with normal dental development
- Know the anatomy of the oral cavity in children
- Have knowledge of health-promoting and disease-preventing measures for children and adolescents
- Be able to adapt treatment when informed about anamnestic responses
- --- Have knowledge of caries diagnosis and indications for treatment
- Have knowledge of the importance of fluorine, nutrition and oral hygiene in preventive work
- Have knowledge of individually adapted treatment for children
- Have knowledge of motivation theory, and of guiding and communicating with children and their relatives
- Have knowledge of traumas and their treatment
- Have knowledge of dental erosion, know the pathological picture and be able to give an account of appropriate treatment alternatives
- Know about periodontal disease in children and adolescents, and conditions that can contribute to this

Skills attainment targets:

- Be able to plan, carry out and assess individually adapted treatment of children and give reasons for choices
- Be able to establish contact and communicate with children and adolescents of different ages
- Be able to give information suited to pregnant women, the parents of young children and employees at public health centres
- Be proficient in clinical interview techniques and understand the structuring of professional consultations with the patient (Motivational Interviewing, Self Determination Theory, coaching, LØFT [Solution-focused approach]......)
- Be able to give individualized information and instruction, encourage patients and relatives to selfmotivation and to take responsibility for their own dental health
- Be able to implement behavior-shaping techniques
- Be able to diagnose and grade caries clinically and using radiology
- Be able to implement non-operative therapy measures at early stages of caries
- Be able to carry out a systematic trauma examination, provide first aid in the case of dental trauma, assess referral to a dentist and provide a satisfactory follow-up examination
- Be able to detect abnormalities in dental development, dentition and the shedding of teeth, and assess referral to a dentist for treatment
- Be able to register and deal with negative emotional reactions and treatment avoidance
- Be able to calculate safe fluorine dosage for children of all ages
- Be able to assess the frequency of check-up appointments and perform a risk assessment
- Be able to assess the need for orthodontics treatment
- Be able to seal off fissures
- Be able to give an account of the symptoms and characteristics of substance abuse

General competence:

- Understand the prioritization of health-promoting and disease-preventing measures
- Know the basic ethical and psychological principles for looking after children undergoing dental treatment
- Demonstrate interest in mastering different situations and show willingness to do this

- Treat patients and relatives with consideration, and keep in mind that cultural values affect dental health and the perception of dental health
- Be active in the supervision relationship, take part in discussions and be updated in the subject area
- Know the dental hygienist's area of responsibility in the dental health service
- Have knowledge of the importance of cooperation with dentists, public health nurses, paediatricians, speech therapists, physiotherapists, nutritionists and other resource persons who have responsibility for children as patients
- Be familiar with the guidelines for keeping patient records and for giving informed consent

The learning outcome is described further in a separate programme description.

Teaching and learning methods:

Seminars, courses, problem-solving tasks, digital interactive learning (DIL) and self study. Clinical practice at the student clinic (including the outpatient clinic and observing anaesthesia procedures as a guest student) and external practice under supervision.

All teaching is compulsory.

Required coursework:

- Compulsory assignments

Forms of assessment:

Paediatric oral health care is considered to be part of pedodontics: TP3210A: A five-hour written integrated examination in pedodontics and orthodontics in Semester 6, to be graded with the letter grades A – F.

GERIATRIC DENTAL CARE DENTAL CARE FOR THE CHRONICALLY ILL, FOR PEOPLE WITH FUNCTIONAL IMPAIRMENTS AND FOR RARE MEDICAL CONDITIONS

Credits:

11

Placement in the programme: Semesters 3- 5

Academic content

The fields of study are described together in order to highlight the correlation and the importance of interaction between them, as well as to emphasize the lifetime perspective in parts of the subject area. The teaching requires that students show independence, that they are motivated vis-à-vis supervision and have the ability to collaborate with other health professionals. The theoretical teaching and practical training must promote students' interest in and understanding of the elderly in institutions and community care, people with functional impairments, disabilities and/or developmental disabilities, and people suffering from acute or chronic illness. Subject-related reflection, self-reflection and self-assessment are important elements in the teaching.

Geriatric dental care:

Teaching in clinical gerodontology takes place in a nursing home in Semesters 3 and 4 and is part of adult clinical instruction/preparatory clinical sessions. Through the instruction students acquire insight into the many phases of life. Topics such as normal ageing, age-related oral changes, common somatic disorders in the elderly and typical forms of cognitive failure and dementia are covered.

Dental care for the chronically ill, for people with functional impairments and for rare medical conditions: The teaching takes place in Semesters 3 to 5 in the form of lectures, seminars and attendance at medical clinics as a guest student. Students carry out dental care in outreach programmes on various wards at the hospital's medical clinic under supervision. In addition, they participate as visiting students at day-care centres for adults with various functional impairments and also at the National Resource Centre for Oral Health in Rare Medical Conditions.

The teaching covers different diagnoses, oral motor therapy/stimulation and genetics as well as interdisciplinary collaboration, interaction, communication and different approaches in the encounter with the patient. The relevant legislation is reviewed, and students acquire insight into clinical ethics and the use of a variety of interpretation services.

Learning outcome

On completion of the training, students will have knowledge of and/or skills relating to:

- Elderly people in institutions and in community care
- People with functional impairments and those with rare medical conditions
- State hospital trusts and the specialist health service
- People with acute or chronic illness
- Health-promoting and disease-preventing measures
- Treatment of different patient groups
- Guidance of patients and relatives
- Teaching and cooperation with other health professionals
- Professionalism in the practice of their occupation

The learning outcome is described further in a separate programme description.

Teaching and learning methods

Lectures, seminars, demonstrations, group work, presentations of students' own work, practical exercises, clinical instruction/preparatory clinical sessions, observation and self study. Oral guidance is provided underway in clinical work and in the field of practice.

All teaching is compulsory.

Required coursework:

- Submission of reports and logs
- Training programme for health professionals
- Quantity requirements

Forms of assessment

Clinical practice at a nursing home is assessed as Pass/Fail together with clinical practice in adult dental/oral health care. Other practical training is assessed as Pass/Fail on the basis of students' knowledge, skills, attitudes, conduct and the assessment of required coursework. A pass grade in clinical instruction/preparatory clinical sessions each semester is a prerequisite for continuing with further studies in the following semester.

Written examination:

TP3100: Integrated group examination in Semester 5 in public health: dental care for people with functional impairments, the elderly and those with chronic illness, health-promoting and disease-preventing measures, community dentistry, education theory and psychology. This is assessed as Pass/Fail.

Oral examination:

The answer paper is defended orally for lecturers and the external examiner. Assessed as Pass/Fail.

4.7.2 PUBLIC HEALTH II

This course is mainly associated with the social and behavioural sciences. Public health II is structured as a broad framework for overall public health work, and is specifically linked to psychology and education theory. These subjects are considered to be academic prerequisites for knowledge development throughout the course. Relation-building is presented as a theme in all subjects. The theoretical basis for health-promoting and disease-preventing measures and for community dentistry is presented jointly for both subject areas.

The theme of Public health II is taken up in all semesters. In order to develop a basic understanding of the entire subject area, topics may overlap in the respective subjects. Public health is integrated into clinical practice aimed at the individual patient and in external activities at group and population level.

Subject areas included largely encompass subjects that promote maturity. Students are made more conscious of their own experiences in the light of new knowledge so as to enable them to analyse, reflect, interpret and perceive new correlations. Students are encouraged to attain independence and self-development. At the same time emphasis is placed on collaboration in group processes, including project work and group examinations.

Public health II will enable students to understand the importance of political guidelines, ethics and different value platforms. Students will be able to acquire and apply academic work methods.

HEALTH-PROMOTING AND DISEASE-PREVENTING MEASURES – PUBLIC HEALTH WORK

Credits:

5

Placement in the programme:

Semesters 3-6

Academic content:

Public health work with a disease-preventing and explicitly health-promoting perspective is a subject area that in constantly growing and developing. Course content focuses on the factors that directly or indirectly promote the health and well-being of the population and prevent diseases related to dental health.

The teaching encompasses various theories and models as well as the application of these. Students receive instruction in WHO's basic guidelines for health-promoting and disease-preventing measures. The theoretical foundation is based on definitions of health-promoting and disease-preventing measures and on the underlying history.

It is important to elucidate the principal differences between health-promoting and disease-preventing measures, especially in relation to the scientific foundation, ethical principles and view of humanity. The study programme emphasizes factors that especially promote health (salutogenesis).

Learning outcome

On completion of the training, students will have knowledge of and/or skills relating to:

- The difference between health-promoting and disease-preventing measures
- Key concepts such as health, public health and quality of life
- Relation-building and understanding of the value of interdisciplinary interaction and cooperation in public health work
- The role of dental hygienists in relation to creating and developing the subject area in a dental health perspective
- Planning, implementation and evaluation of strategically sound public health measures for individuals, special groups and the population at large

The learning outcome is described further in a separate programme description.

Teaching and learning methods

Seminars, project work, problem-solving tasks, group work and self study. Various forms of student-driven learning.

All teaching is compulsory.

Required coursework:

- Course assignments
- Presentation of students' own work
- Submission of portfolio: Public health II

Forms of assessment

Written examination:

TP3100: Integrated group examination in Semester 5 in public health: dental care for people with functional impairments, the elderly and those with chronic illness, health-promoting and disease-preventing measures, social odontology, education theory and psychology. Assessed as Pass/Fail.

Oral examination

The answer paper is defended orally for lecturers and the external examiner. Assessed as Pass/Fail.

PSYCHOLOGY

Credits:

3

Placement in the programme:

Semesters 2-6

Academic content:

The course will give students an insight into behavioural theories and theories related to mental processes, cognitive development, emotions, motivation, socialization and learning. It provides a platform for students' awareness and understanding of their own professional development. The integration of theories associated with professional practice in relation to the individual, the group and the population at large plays a key role.

The teaching is linked to humanistic psychology and is aimed at producing dental hygienists who are updated in the subject and quality conscious and who seek insight into human processes. The concept of health and life quality plays a central role. Other topics studied are anxiety, depression and pain.

Learning outcome

Students learn to integrate the subject of psychology in their encounters with other people. Students must use their knowledge to reflect on, interpret and discuss human development and growth, in particular in connection with health-promoting and disease-preventing measures, legislation and ethics.

On completion of the training, students will have knowledge of and/or skills relating to:

- Educational psychology and developmental psychology
- Theories of motivation, learning and mastery
- Interpersonal processes and how we as health workers manage our contact with other people and encourage learning, change and development
- Human rights, legislation and ethical issues
- Development of understanding of what being both a person and a patient entails, and what challenges are linked to this
- Understanding and awareness of their own actions, and how and why these are carried out

The learning outcome is described further in a separate programme description.

Teaching and learning methods

Lectures, seminars, problem-solving tasks and self study. Various forms of student-driven learning. All teaching is compulsory.

Required coursework:

- Submission of assignments

- Presentation of students' own work
- Delivery of portfolio: Public health II

Forms of assessment

Written examination:

TP3100: Integrated group examination in Semester 5 in public health: dental care for people with functional impairments, the elderly and those with chronic illness, health-promoting and disease-preventing measures, social odontology, education theory and psychology. Assessed as Pass/Fail.

Oral examination

The answer paper is defended orally for lecturers and the external examiner. Assessed as Pass/Fail.

EDUCATION THEORY

Credits:

12

Placement in the programme: Semesters 2-6

Academic content:

Students will acquire knowledge of the importance of the theoretical foundation of the subject area. A key principle of the course is practical training as documentation of theoretical and empirical experience. By means of practical work, sharing experiences and reflection, students will gradually acquire understanding and be able to assess how this knowledge can be used in practice. Students are challenged in relation to both the semester level and to the learning ability they can demonstrate.

The course has three main focal points:

- Planning of teaching
- Work on reflection
- Communication and guidance

The course provides:

- Didactic competence: students learn to plan, implement and assess training in different arenas and contexts
- Social competence: emphasis is placed on students becoming aware of their own reactions in interpersonal relationships and in relation to group dynamics. Interaction, cooperation and guidance are key topics
- Change and developmental competence: to develop independent and reflective dental hygienists with the ability to adjust and to participate in life-long learning

Learning outcome

On completion of the training, students will have knowledge of and/or skills relating to:

- Communication theory based on the students' own experiences
- Social relationships
- Professional ethics
- Basic values and attitudes in connection with their own choices in different situations
- Application of pedagogical principles in practice:
 - Didactics (teaching studies)
 - Communication
 - Guidance
- Mastering the various challenges students face, with a focus on their own and others' learning
- Relation building

The learning outcome is described further in a separate programme description.

Teaching and learning methods

Seminars, courses, assignments, log, project work, practical exercises and self study.

All teaching is compulsory.

Required coursework:

- Log
- Reflection notes
- Obligatory assignment
- Course in presentation techniques
- Observation of communication at a clinic
- Teaching project
- Submission of portfolio: Public health II

Forms of assessment

Written examination:

TP3100: Integrated group examination in Semester 5 in public health: dental care for people with functional impairments, the elderly and those with chronic illness, health-promoting and disease-preventing measures, social odontology, education theory and psychology. Assessed as Pass/Fail.

Oral examination:

The answer paper is defended orally for lecturers and the external examiner. Assessed as Pass/Fail.

COMMUNITY DENTISTRY AND WORK PREPARATION

Credits:

5

Placement in the programme:

Semesters 3-6

Academic content:

Community dentistry:

The course provides a general account of the organization of the dental health service, its funding, use of personnel and costs. In addition the dental health situation for different population groups and the development of dental health in recent years are described. The most important legislative principles and political guidelines are presented. Furthermore, the teaching takes up the mapping, analysis, planning, execution, implementation and evaluation of projects and measures in health-promoting and disease-preventing activities. Through instruction in descriptive statistics students learn how to read and interpret tables and to apply statistics more consistently in their own work and practice, as well as to document their own activities.

Work preparation

Work preparation takes place in all subject areas through teaching adapted to the profession. Arrangements are made for student placements in the public sector dental health service at an early stage of the programme to give students an insight into the dental hygiene profession. Students take part in a range of job-related seminars, including seminars on employment in the public and private sector, on the establishment and operation of their own activities as well as other career guidance. Students acquire an insight into health legislation and are given information about the health authorities and different organizations.

Learning outcome

On completion of the training, students will:

- Understand how the dental health service is part of the welfare state
- Be able to give an account of how the dental health service represents a sector of public health work
- --- Understand how and why the dental health service is organized and funded as it is
- Give an account of the population's use of dental health services
- Have knowledge of the population's dental health situation and be able to explain the changes that have taken place
- --- Have a basic knowledge of the principles of epidemiological population surveys
- Be able to participate in the implementation of regional dental health surveys and to evaluate measures in the dental health service
- Have knowledge of the relevant health legislation, the health authorities, organizations and working life

Teaching and learning methods

Seminars, student-driven forms of learning and self study. All teaching is compulsory.

Required coursework:

- Submission of portfolio: Public health II

Forms of assessment:

Written examination:

TP3100: Integrated group examination in public health in Semester 5: dental care for people with functional impairments, the elderly and those with chronic illness, health-promoting and disease-preventing measures, community dentistry, education theory and psychology. Assessed as Pass/Fail.

Oral examination:

The answer paper is defended orally for lecturers and the external examiner. Assessed as Pass/Fail.

4.7.3 BACHELOR ASSIGNMENT

Credits:

Placement in the programme:

Semesters 5 and 6

Academic content:

The bachelor assignment is a specialization assignment linked to a relevant self-chosen topic that is written on an individual or group basis. The assignment must maintain a scientific perspective based on theory and research methodology. In the process of working with the assignment the student will acquire knowledge and experience of research principles and subject-related development work. The bachelor assignment must follow the guidelines for research ethics.

Students must formulate and elaborate on a research question that must be approved by the supervisor. The topic must relate to dental hygiene subjects in a health-promoting and disease preventing perspective, and the assignment must be completed in accordance with applicable ethical norms. See also *Mal til Bacheloroppgave i tannpleie* (Template for the bachelor assignment in dental hygiene).

Learning outcome

Through their work on the bachelor assignment students will have:

- Learned to formulate and elaborate on a research question linked to their own practice field
- Acquired new insight into and knowledge of an area of specialization

- Acquired some experience of the application of scientific theory and different research methods, both quantitative and qualitative, for example by conducting qualitative interviews or by collecting data via questionnaires
- Acquired the knowledge to assess, interpret and discuss the results achieved
- Shown the ability to reflect in a professional/scientific context and to assess research literature independently
- Gained experience in presenting subject-related material orally and in writing

Teaching and learning methods

Seminars, supervision, group work and/or individual work. The supervisor is appointed by the study programme. All teaching is compulsory.

Form of assessment:

The assignment is assessed as Pass/Fail. Oral presentation of assignments that have gained a pass grade.

5. TEACHING AND LEARNING METHODS

5.1 TEACHING AND LEARNING METHODS

Students must initially familiarize themselves with the student role, learn to learn through active participation in the learning environment and also adopt a reflective and critical approach to the teaching. Learning is viewed in a lifelong perspective.

Methodological work methods and skills include problem-solving tasks, various research methods, documentation and practical skills. As part of the student's learning process and as a basis for assessing professional development, specific coursework is set each semester (courses and compulsory assignments). Key importance is ascribed to clinical instruction/preparatory clinical sessions, and students must pass the examination in this subject each semester to be allowed to continue their studies.

Lectures, seminars, courses, problem-based learning, exercises and demonstrations are used. Learning arenas include the Faculty's student clinics, wards in nursing-homes and hospitals, a variety of institutions, the public sector dental health service and private dental clinics if this is feasible. The programme alternates between self study, individual work and group work where students learn from and together with each other. Student-driven forms of learning are employed in order to enable students to put theory into effect and to give reasons for their choices.

Students are expected to familiarize themselves with the mandatory reading and to identify relevant scientific articles in the individual subject areas.

Digital tools are used in the teaching.

5.2 SUPERVISION AND FOLLOW-UP

Supervision and follow-up are organized within the framework of the programme of study.

Students are monitored in various ways during the theoretical part of the programme. The follow-up alternates between written and oral feedback. Seminars are structured so as to encourage dialogue between students and teachers.

Students receive clinical guidance individually and as a group on a regular basis throughout the entire course of study. In addition, they advise each other in the clinic, in practical training and in various group processes

including as part of the training in pedagogical skills. All students have a supervisor at the clinics for general dentistry for adults and children respectively, and as part of the follow-up of clinical practice the supervisor has regular meetings with the individual student.

Students are monitored in external practice by a practice supervisor and a lecturer on the programme.

Communication with the study programme is ensured through the student representatives of the respective cohorts.

5.3 THE PRACTICE FIELD

The practice field is a teaching arena in which theory is integrated with experience-based professional knowledge.

Learning in practical training courses takes place by students acquiring theoretical knowledge through workrelated guidance. The aim is to develop an overall understanding of the subject and the profession. Learning in the practice field is a prerequisite for professional development and identity.

- Students receive practical training internally at student clinics throughout the entire programme.
- External practical training takes place in the public sector dental health system, at special homes for adults with functional impairments, hospitals and the private dental health service.

The study programme allocates practice placements to the individual student. When placements are allocated, priority is given to students with small children while other students have little opportunity to request a placement at a particular location. Student placement includes a fairly long continuous period of practice in the public sector health service. Students must be prepared for the practice placement to be located in another part of the country.

Students are closely monitored by their supervisors throughout the practice periods, and their practical training is quality assured through dialogue between the study programme and the student throughout the programme. As part of the quality assurance of the practice field, the study programme arranges a seminar for supervisors.

Placements in practice fields and practice content are further specified in Appendix I.

5.4 STUDENT COOPERATION

Both the dental hygienist and the dentist are important professional resources in the clinic teams. In order to ensure the best possible quality in the facilities offered by the dental health service, it is vital that the occupational groups are familiar with each other's competence. This should be focused on during the period of studies. A platform is provided for close and committed collaboration between students on the basic courses in dental hygiene and in dentistry.

Practical training

- Cooperation in the field of geriatric dental care

Clinical instruction/preparatory clinical sessions:

- Cooperation regarding patients at the Clinic for General Dentistry Adults (**)
- Dental hygiene students supervise "new" dentistry students oral hygiene course
- Cooperation regarding child patients with mixed dentition at the Clinic for General Dentistry Children under the supervision of an orthodontist clinic partners (*) (**)
- Cooperation in the case of patients with implants (screening, follow-up examinations, guidance etc.) at the Section of Oral Surgery and Oral Medicine (*)

* Both student groups carry out diagnostics and make referrals jointly, if appropriate.

** Dentistry students perform any necessary dental conservation treatment, and the dental hygienist student gives the patient/relative guidance, and advises on health-promoting and disease-preventing measures, including non-invasive caries therapy.

Theoretical instruction:

- Joint case in pedodontics under supervision.

5.5 COMPULSORY TEACHING

The Bachelor of Science degree programme in Dental Hygiene is a profession-oriented programme of study. Students acquire much of the learning outcome through active participation in the education. All courses, seminars, clinics and practice are compulsory. In addition in some subject areas there is required coursework throughout the entire programme. This may include group work and individual assignments, different kinds of reflection tasks, quantitative clinical instruction/preparatory clinical sessions requirements and other requirements regarding the attainment of skills, cf. skills listed in programme descriptions.

The Faculty has its own rules for absence that define how much absence from theoretical and clinical instruction/preparatory clinical sessions is acceptable, cf. 3.5.

5.6 LANGUAGE OF INSTRUCTION

All courses are taught in Norwegian or Swedish or Danish. Joint lectures may be given in English when these are also attended by ERASMUS dentistry students.

5.7 LOCATION OF TEACHING

Teaching mainly takes place on the premises of the Faculty of Dentistry at Geitmyrsveien 69/71. In the first year of the programme of study, some of the instruction takes place at the Department of Oral Biology at Oslo University Hospital Rikshospitalet.

Throughout the programme of study, students have practice placements that entail attendance at locations designated in the teaching plan distributed. See also 5.3: Practice field.

6. EXAMINATIONS AND FORMS OF ASSESSMENT

6.1 EXAMINATIONS, FORMS OF ASSESSMENT AND EXAMINATION RESULTS

The forms of assessment employed are written and oral examinations, and assessment of clinical instruction/preparatory clinical sessions and practical training and the assignments submitted. Throughout the programme of study, students are informed of the subsidiary objectives and final learning outcomes prior to a midway or final evaluation.

Written individual examinations that are assessed, are graded with the letter grades A – F as described in 6.3 Grading system. Other forms of assessment used are Pass/Fail.

Overview of course examinations

Sem	Course examination	Form	Hours	Grades	Examiner
6	TP3210B Odontological specialization courses II (periodontology, cariology, endodontics, prosthetics and biomaterials/dental materials)	W	5	A-F	E
	TP3210A Odontological specialization courses I (pedodontics and orthodontics)	W	5	A-F	E
5	TP3100 Public health	W and O		Pass/Fail	E
	(integrated group examination)				
4	TP2200 Oral radiology	W	4	A-F	E
3	TP2100B Pharmacology	W	4	A-F	E
	TP2100A Pathology and oral medicine	W	4	A-F	E
2	TP1200B Oral biology	W	4	A-F	E
	TP1200A General biology II and chemistry	W	4	A-F	E
1	TP1100 General biology I and human nutrition	W	4	A-F	E
	EXPHIL03	*)	*)	A-F	1

Form: W = written, O = oral

Examiner: E = external, I = internal

*) EXPHIL03:

The examination form depends on which course variant and examination students enrol on. See also the website of the Department of Philosophy, Classics, History of Art and Ideas at the University's Faculty of Humanities: http://www.uio.no/studier/emner/hf/ifikk/EXPHIL03E/

The examination must be passed by the end of Semester 4.

Assessment of the bachelor assignment:

The assignment is graded as Pass/Fail. An oral presentation of assignments with a pass grade is compulsory.

Assessment of clinical instruction/preparatory clinical sessions and the practice field:

Students are assessed continuously in respect of academic progress, attitudes, suitability and conduct in the clinic and practice field. During the examination in clinical instruction/preparatory clinical sessions in the third year of the programme, students are assessed as regards their clinical skills, subject knowledge, attitudes and professional conduct. The examination in clinical instruction/preparatory clinical sessions is graded as Pass/Fail and must be passed to gain an overall pass grade in the course.

See Appendix I, 6.4 Assessment elements for clinical instruction/preparatory clinical sessions

In accordance with the guidelines of the Quality Reform of Higher Education in Norway, students must be given a warning if they are in danger of failing a semester. This is in line with the required prerequisite knowledge described in the rules for progress and rules for absence. See also 3.5: Requirements regarding progress.

6.2 LANGUAGE OF EXAMINATIONS

The examination questions set for the courses included in the programme are in Norwegian, and in general the answers must also be in Norwegian, or in Swedish or Danish if relevant. The course descriptions provide more information about the Norwegian language variant/language in examination questions and answers.

6.3 GRADING SYSTEM

Scale 1: Pass/Fail

Scale 2:

All Norwegian educational institutions must primarily have a verbal description of the grading scale. The Norwegian Association of Higher Education Institutions has described the principles on which the national grading system at all levels is to be based. The table below shows the general, qualitative descriptions for the different grades in the letter grade scale based on these principles.

Symbol	Description	General, non subject-specific description of valuation criteria		
A	Excellent	An excellent performance, clearly outstanding. The candidate demonstrates excellent judgment and a high degree of independent thinking.		
В	Very good	A very good performance. The candidate demonstrates sound judgment and a very good degree of independent thinking.		
С	Good	A good performance in most areas. The candidate demonstrates a reasonable degree of judgment and independent thinking in the most important areas.		
D	Satisfactory	A satisfactory performance, but with significant shortcomings. The candidate demonstrates a limited degree of judgment and independent thinking.		
E	Sufficient	A performance that meets the minimum criteria, but no more. The candidate demonstrates a very limited degree of judgment and independent thinking.		
F	Fail	A performance that does not meet the minimum academic criteria. The candidate demonstrates an absence of both judgment and independent thinking.		

6.4 TIMES OF ASSESSMENT IN CLINICAL INSTRUCTION/PREPARATORY CLINICAL SESSIONS

To ensure good communication between students and the study programme, Appendix 1 gives an explanation of the assessment criteria and of the times of assessment in clinical instruction/preparatory clinical sessions, as well as an account of any required coursework.

6.5 EXAMINATION REGULATIONS

Compulsory activities/qualification requirements:

Students must have attained a pass grade in compulsory activities before being allowed to take examinations, cf. Regulations governing studies and examinations at the University of Oslo

http://www.admin.uio.no/admhb/reglhb/studier/studier-eksamen-grader/forskr-studier-eks.xml#para5

Please note that in order to sit the TP1100 examination, students must have passed Semester test I. To sit the TP1200A examination, a pass grade in Semester test II is required. Students must have achieved a pass grade for the entire clinical skills course before they can start to treat patients.

Right to take new examinations, rescheduled examinations and any special examinations

Ordinary examinations are held every semester. Students with legitimate absence from an ordinary examination can take the rescheduled examination, cf. Regulations for studies and examinations at the University of Oslo. Students who have received a fail grade for the ordinary examination attend a new examination at the same time as a rescheduled examination is held, cf. Regulations for studies and examinations at the University of Oslo.

New/rescheduled examinations in the autumn semester are arranged as soon as practically possible after the announcement of examination results. New/rescheduled examinations in the spring semester are arranged at the commencement of studies in the following autumn semester. Only one new/rescheduled examination is held each semester. If there is a need for special arrangements, an application must be submitted within stated time limits.

Number of examination attempts

1. Students cannot take the same subject or course examination more than three times, cf. Regulations for studies and examinations at the University of Oslo. In special cases the Faculty can exempt students from this provision.

Students at the Faculty of Dentistry can only in exceptional cases count on being allowed to sit an examination a fourth time. A special application must be submitted, and in the assessment the two following factors are emphasized:

- The application must be based on concrete circumstances and be documented by a medical certificate/declaration
- The applicant must establish that the causal relations that led to the earlier fail grade are no longer present.

The last factor can be documented by a doctor's attestation of a student's full recovery.

- 2. A student who has submitted an examination answer cannot avoid the grading of his/her answer
- 3. Failure to attend the examination without a valid reason is deemed to be an examination attempt that will be counted.

Consequences when a student does not receive a pass grade for compulsory activities or when he/she receives a fail grade at a rescheduled or new examination

If a student does not receive a pass grade for a compulsory activity or when he/she receives a fail grade at a rescheduled or new examination, the student will be obliged to repeat the year. In the Bachelor of Science degree programme in Dental Hygiene this means a delay in the course of study of one calendar year. To avoid conflict with the rules on progress, the student will be given leave of absence while waiting to repeat the course he/she failed.

A student who does not attend a rescheduled/new examination will be obliged to repeat the year even though the student can document absence with a medical certificate.

7. QUALITY OF THE PROGRAMME OF STUDY

QUALITY ASSURANCE OF THE PROGRAMME OF STUDY

The University of Oslo has developed a quality assurance system for educational activities at the University aimed at maintaining and developing the quality of study programmes at the institution. It is the institution itself together with the University Board that has the overarching responsibility for the quality of all the University's programmes of study, while the responsibility and authority for quality and quality assurance efforts are delegated to the respective faculty and programmes. Students themselves are important players in quality work, both via the student representatives and through student evaluations.

The programme of study is evaluated regularly in order to ensure and develop the quality of the programme:

 The study programme carries out an annual assessment of whether the programme's objectives have been achieved, and external programme supervisors scrutinize and help to develop examinations and results

- At least every fourth year the Faculty carries out a more thorough evaluation of the programme in which external representatives also participate
- Courses that form part of the programme are evaluated

All parts of the Bachelor of Science Degree Programme in Dental Hygiene are planned with a view to the study quality. Adapted measures are emphasized in relation to the desired goal achievement. Quality work is intended to reveal possible deficiencies and to highlight the strengths and weaknesses of the programme in relation to teaching, programme management and result achievement.

The aim of the programme of study is to offer an updated and relevant education with the best possible teaching and supervision. Therefore it is important that students contribute feedback and participate in the evaluation of the courses of study. Student evaluations are held regularly in order to ensure quality development/assurance of the programme of study.

8. ADMINISTRATION

8.1 STUDY AND PROGRAMME COMMITTEES AT THE FACULTY

Dental Students Committee:

The Dental Students Committee is the steering body for dentistry students. Its primary task is to promote the interests of the students vis-à-vis Faculty management and other decision-making bodies. The committee consists of ten dental students and one dental hygiene student.

The committee is responsible for representing students in political as well as professional matters, and has a particular responsibility towards the individual student. It represents students in internal matters at the Faculty, at the University and externally if this is natural. The committee works continually to improve students' working and study conditions at the Faculty. Students who encounter problems in their everyday studies, who are dissatisfied with the teaching or who want to appeal against examination results, can get support from the committee.

Programme Committee for Studies and Programmes:

The Programme Committee for Studies and Programmes deals with matters linked to studies and programmes such as the quality of the courses of study, changes in programme descriptions and cases involving important principles related to studies etc.

Semester Committee for the bachelor programme in dental hygiene

The Semester Committee is second in importance to the Programme Committee. This committee deals with general matters related to the programme such as quality, changes in programme descriptions for the dental hygiene programme, timetabling, implementation of teaching and examinations as well as student-related matters etc.

8.2 ADMINISTRATION OF PROGRAMMES OF STUDY

Administrative matters relating to courses of study are handled by the studies and research section, which is part of the administrative management of the Faculty. Administrative matters relating to the programme include questions and matters linked to examinations, absence, leave, special arrangements and the like.

See the Faculty's webpages for an overview of the composition of the studies and research section, and for contact information.