

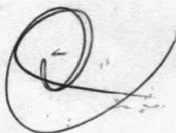
Lisbon, 25th of July 2014.

STATEMENT

Dário Teixeira Vilela, Secretary of the Lisbon Dental School at the University of Lisbon, in possession of official documents in our files, certifies that **SARA CARINA COSTA NUNES**, was a student of the Dental Hygiene Program in Lisbon Dental School, University of Lisbon, from September 2008 to July 2013 (during three academic years), and followed the study plan 2008/2009 that is attached to this statement.

The Secretary

(Dário Teixeira Vilela)



U LISBOA



UNIVERSIDADE DE LISBOA
FACULDADE DE MEDICINA DENTÁRIA

STUDY PLAN

BACHELOR IN DENTAL HYGIENE

1st YEAR

HUMAN ANATOMY (9 ECTS)

The main objective of the course is to guide the student to a detailed knowledge of human anatomical structures, their roles and relationships. It requires the student to be familiar with the pathological features and oral relevance of common diseases in the major organ systems.

CELLULAR BIOLOGY (6 ECTS)

The Cellular and Molecular Biology focuses on how cells work as a constituent unit of living beings. It is an interdisciplinary area of scientific knowledge, rapidly growing, which provides seamless integration between basic sciences that contribute to the understanding of mechanisms of cell from different perspectives. The program of this course aims to study the cell from the point of view of morphological, ultra structural and biochemical characteristics.

DEVELOPMENTAL BIOLOGY (6 ECTS)

The Developmental Biology course aims students to achieve learning and obtaining knowledge about the ultrastructure of tissues of the human body and the embryological development of tissues and organs. Students should develop knowledge, skills and abilities to understand the ultra structural morphology of cells and tissues that make up the various organs and apparatus of the human body and its various stages of embryological development.

DENTAL ANATOMY AND MORPHOLOGY (3 ECTS)

The General Dental Morphology describes the morphological, functional and morpho-physiological characteristics of teeth, dental arches and teeth supporting tissues. The Individual Tooth Morphology describes the anatomy and morphology of each tooth of the deciduous and permanent dentition. Include the individual identification of all teeth of the deciduous and permanent dentition from photos, models or dental pieces and recognition of the structures supporting the teeth and their anatomical/functional relationship.

GENERAL MICROBIOLOGY (5 ECTS)

Microbiology is the branch of biology which the subject is to study is microorganisms such as bacteria, fungi and viruses. In a more current perspective is considered not only a clinical perspective in order to understand the mechanism and the etiology of human diseases but also from the point of view of ecology and biotechnology. Study of morphological and physiological aspects of microorganisms, their genetics and their interaction with humans and their participation in the development of pathological conditions.

BIOCHEMISTRY (6 ECTS)

The knowledge to acquire in this course is divided into four parts. The first part teaches aspects of general chemistry such as chemical bond, chemical reactivity, and properties of aqueous solutions. The second part presents the types of biomolecules and their structural and functional properties. The third part to be addressed is mechanisms of membrane transport and in the last part an introduction to metabolism.

ORAL MAXILO-FACIAL IMAGIOLOGY (3 ECTS)

Prepare students in the several techniques and imagiology methods applied to diagnosis, treatment and oral rehabilitation through interpretation of orofacial radiographic images. Include identification of different anatomical structures, normal anatomy and pathological changes; knowledge of the physical and chemical properties and rules of manipulation of different materials used; knowledge of the physics and hazards of radiation and protective measures; utilize the equipment and techniques currently used in the field of orofacial imagiology.

EPIDEMIOLOGY AND BIOSTATISTICS (6 ECTS)

The component of Epidemiology is intended for students to understand the dynamics and distribution of health and disease, and their determinants in the community, identify and interpret the major demographic and health indicators of a population, know the types of epidemiological studies and the main errors and flaws, understand the concept of association and causation and interpret diagnostic tests. The component of Biostatistics is an introduction to Biostatistics addressing the descriptive statistics and statistical inference. Start with data collection techniques, measurement scales and graphic representation of data. Descriptive statistics: frequency distribution, measures of location and dispersion. Approach to distributions and probabilities theory. Statistical inference is to introduce the sampling, testing hypotheses, the chi-square and nonparametric tests.



SOCIOLOGY (3 ECTS)

The course studies the issues that cross the social relations with the sphere of health, disease and medicine. It is aimed at reflection and action on the incidence of social phenomena in health and disease. Addresses emerging issues and variables such as, social inequality, social backgrounds, lifestyles, food, environment, attitudes relative to loss, the body and the impact of new technologies in healthcare.

ENGLISH (3 ECTS)

Course designed for understanding the vocabulary of English in scientific literature with emphasis on medical and dental literature. Reading and discussion of scientific papers.

DENTAL HYGIENE I (3 ECTS)

Introduction to the study of dental hygiene - disinfection and sterilization; principles and techniques of instrumentation for the removal of soft and hard supragingival deposits, collect medical and dental histories, oral hygiene habits, indexes for oral health, periodontal screening, status of dentition and occlusion. Planning and implementing dental hygiene appointments. Teaching of oral self-care measures, practical application in models, simulated situations and clinics with patients.

DENTAL HYGIENE II (4 ECTS)

Apply techniques and procedures in dental hygiene appointments, namely; identification of pathological situations that could interfere with dental hygiene appointments by collecting a medical history; Recognize the importance of head and neck and intraoral exams in the prevention of oral cancers; Identify the different techniques of motivation and adaption to each patient; Identify the different means, methods and techniques of removal of oral deposits and relate them with each clinical situation; Recognize the importance of clinical charts as source of information; collect data, detect changes to normal, analyze data collected and plan and implement a course of action.

SCHOOL AND COMMUNITY DENTAL HYGIENE I (3 ECTS)

Provide students with the basics for the development of community activities in a reflective and autonomous way enabling a strict and scientifically supported professional practice and the capacity for critical analysis of intervention. Include concepts of health and prevention, determinants of health, factors related to the provision of health care, education and health promotion and motivation preparing students for integration and implementation of activities in School Health.

2nd YEAR

PHYSIOLOGY (6 ECTS)

This course is mainly intended to guide the student to the detailed knowledge of the mechanisms of functioning of body systems and their integrated vision. Special emphasis is given to explaining the functioning of the body and understanding of diseases that affect it, as well as the complex interaction between oral health, nutrition, general health, drugs and diseases that may have an impact on oral health care and oral diseases.

IMMUNOLOGY (5 ECTS)

The Immunology corresponds to the branch of medical science that studies the defense mechanisms of the human body to violations of biological integrity. Integrates the study of all the basic mechanisms underlying the maintenance of immune competency (a component of immune homeostasis), namely, immune function, response to infections, immunodeficiency, hypersensitivity, autoimmunity, tumoral immunity and the principles of transplant rejection.

HEAD AND NECK ANATOMY (5 ECTS)

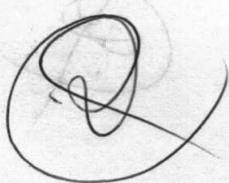
The purpose of discipline is to give students a thorough knowledge of Human Head and Neck Anatomy to integrate the knowledge and training provided in other course subjects. Have knowledge about the disease process including infection, inflammation, abnormal immune system, degeneration, neoplasia, metabolic and genetic disorders.

ORAL BIOLOGY I (4 ECTS)

The main goal of this course is the acquisition of knowledge of biology and histology of the oral cavity and its relation with dentistry. It aims to integrate basic sciences to understand the architecture of oral cavity tissues and homeostatic mechanisms, in physiologic conditions. Introduction to biological basis of different clinical aspects of dentistry and dental hygiene.

DISEASE MECHANISMS (5 ECTS)

This course aims at understanding the disease as a physiologic change with consequent inadequate adaptation to internal and external environment. Acquisition of knowledge about etiologic agents and their effects, susceptibility factors, body responses, pathogenic pathways, pathophysiology of major systems failure, major syndromes and paradigmatic diseases. The course focuses on particular syndromes and symptoms of diseases of other medical specialties that can interfere either with dental treatment or with therapy. Sensitize the student to recognize the patient whose pathology involves risk to dental treatment.

**HUMAN MOLECULAR GENETICS (5 ECTS)**

The knowledge to teach this course is divided into four parts. The first, will taught basic concepts relating to the bases of heredity and the principles of cytogenetics. In the second part it will present the mechanisms of transmission and genetic variability. The third part of the course will address the role of genetics in several inherited, hereditary and neonatal diseases. The last section will discuss some issues related to counseling and risk assessment in the development of a genetic diagnosis and genetic nomenclature currently used.

ORAL BIOLOGY II (4 ECTS)

Introduction to the molecular/ biological basis of pathological changes and homeostasis of the oral cavity. Include functional aspects of saliva; acquired pellicle and dental plaque, dental caries, fluorides, dental erosion, dental calculus, periodontal diseases, cellular adaptation, lesion and cellular death, taste and smell, swallowing and speech, protective mechanisms and reflexes of the oral cavity.

PERIODONTOLOGY (3 ECTS)

The main goal of this course is the acquisition of theoretical knowledge and scientific basis of periodontology, namely: periodontium anatomy and histology, periodontal disease (aetiology and progression), classification of periodontal diseases, periodontal screening (periodontal status, radiographic status), phases of periodontal treatment, non-surgical periodontal treatment, motivation and hygiene instruction for periodontal patient, means of dental plaque removal, objectives, indications and types of periodontal surgery, epidemiology of periodontal diseases, risk factors for periodontal diseases, periodontal disease as a risk factor.

PUBLIC HEALTH (3 ECTS)

Knowledge of the principles underlying public health and health systems models, the national health system, the national health plan and the national program of oral health promotion. Understanding the dynamics and distribution of health and illness in the community and its determinants and interpret the main demographic indicators and health of a population. Understanding the basics of health promotion strategies, intervene appropriately and effectively in the community as a health educator, particularly in the promotion of healthy lifestyles.

PSYCHOLOGY (3 ECTS)

This course aims to contribute to the adoption of a holistic approach and patient-centered in the future clinical work of students. In this sense, are introduced topics related to the psychosocial contributions to health and disease, the interaction between health professionals and the patient and psychosocial aspects of domain-specific interference with the clinic, such as compliance and anxiety.

COMPUTER SCIENCE (3 ECTS)

Introduction to the computer (hardware and software). Understanding and practice of the use of the following software applications: databases (Access), spreadsheet (Excel), presentation graphics (PowerPoint). Introduction to the functionalities of social networking, e-learning and b-learning.

DENTAL HYGIENE III (4 ECTS)

Prosecution of therapeutic and prophylactic measures: pit and fissure sealants, dental hygiene care of prosthetic appliances and orthodontic appliances, removal of subgingival deposits, root scaling and planning, management of dentin sensitivity, utilization of fluoride products. In-depth study of plaque removal techniques and patient education to achieve change in oral hygiene habits. Assessment of patient oral health, discussion, analysis, plan and implement treatment plans. Includes a module of Basic Life Support and emergency protocols in dental hygiene practice.

SCHOOL AND COMMUNITY DENTAL HYGIENE II (3 ECTS)

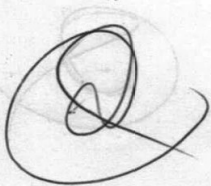
The course intends to promote planning, integration and participation of students in oral health school activities. It is design for practical application of knowledge acquired in the first year. At the end of the course the student is prepared to plan, implement and evaluate school oral health programs in kindergartens, elementary and secondary schools.

DENTAL HYGIENE IV (4 ECTS)

The course is taught to continue to improve the theoretical and practical knowledge of students and introduces new concepts and techniques that allow them to plan and execute adequate treatments in a professional manner. Besides specific techniques for plaque and calculus removal, such as root planning, the course introduces the themes halitosis, fluoride toxicity, management of medically compromised patients, effects of pharmacologic therapies in oral health and substance abuse and oral health and tobacco cessation. Include presentation and discussion of clinical cases.

SCHOOL AND COMMUNITY DENTAL HYGIENE III (3 ECTS)

The course intends to promote planning, integration and participation of students in community activities with maternal and infant oral health and elderly people. The program takes place in maternity hospitals, health centers, nursing homes and day-centers.



3rd YEAR

GENERAL PHARMACOLOGY (3 ECTS)

The course of General Pharmacology addresses in its content, the effect of drugs on the human body. This course addresses the management, distribution, metabolism and excretion of the main active components of the drug groups with emphasis for dental hygienists. It also encompasses the process of creation and implementation of medicines

DENTAL MEDICINE SPECIALITIES (2 ECTS)

The discipline of Dental Medicine Specialities is formulated to provide students with an overview of several areas where dental hygienists may participate in their professional lives. At the end of this course the student will recognize the different specialties in dentistry and analyze the role of the hygienist when working in teams with each of the different specialists.

ORAL MEDICINE AND PATHOLOGY (2 ECTS)

Study of diseases affecting oral cavity with special emphasis to the description of lesions caused by these diseases. The course will cover the following topics: Biomorphology and defense mechanisms of oral mucosa, general pathology of oral mucosa, macular-papular diseases, pigmented lesions, vesicle- bullous diseases, ulcerative-erosive disorders, and benign tumors of oral mucosa. Oral and peri-oral infections caused by bacteria, viruses, fungal and parasites, AIDS and oral manifestations, pathology of lips and tongue, drug stomatitis, facial pain and burning mouth syndrome. Differential diagnosis and treatment of oro-facial pain.

BIOMATERIALS (4 ECTS)

This course is intended to habilitate students to: Select dental materials based on scientific knowledge of composition, structure and proprieties, manipulate dental materials using the same knowledge, evaluate the performance of dental materials in laboratory and in clinic, understand the mechanisms of failure of such materials in laboratory and in clinic, recognize the limitations and disadvantages of dental materials foreseeing the characteristics that change with time. Critical evaluate the characteristics of new dental materials that are used in dental hygiene practice.

BIOETHICS (3 ECTS)

The course aims at introducing Bioethics, incorporating the ethical thinking in a humanistic culture of training future health professionals, developing a decision-making thought and ethical conduct in patient/health professional relationship.

DEONTOLOGY IN DENTAL HYGIENE (1 ECTS)

This course is planned to introduce students to ethics in health care, especially as regards the ethical dimension of health and disease and its relationship to professional practice. It also seeks to develop and analyze ethical and legal positions on current matters, especially those related to the performance of the profession. During the course the student is given the opportunity to apply ethical principles and code of ethics to cases that may occur in their work.

DENTAL HYGIENE V (5 ECTS)

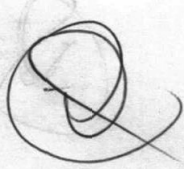
Care for individuals with oral and / or systemic problems; evaluate treatments already made; alter treatment plan according to the conditions presented, discuss modifications and/or alternative plans for treatments described. Prepare and present clinical cases, case-based discussions and problem based learning. Analyze and present a review article on oral health issues in order to deepen theoretical knowledge in specific areas of clinical work / community work.

DENTAL HYGIENE FOR THE HANDICAPPED (5 ECTS)

This course intends to introduce the different kinds of disabilities in order to prepare students with the knowledge needed to provide oral hygiene care for the handicapped in clinical and community. Topics include management of Cerebral Palsy, Down syndrome, Autism, motor, sensory and mental / intellectual handicapped patients. The practical component is done in the clinic

SCHOOL AND COMMUNITY DENTAL HYGIENE IV (3 ECTS)

This course is formulated to promote integration and participation of students in community activities with disabled individuals. It will give students the practical application of theoretical and practical knowledge acquired in other courses of the dental hygiene program.



NUTRITION AND ORAL HEALTH (2 ECTS)

This course is dedicated to the study of the relationship between nutrition and oral health and the integration of nutrition counseling in clinical practice of the dental hygienist. The course is structured in three blocks. The first block will cover the basics of nutrition as well as processes related to digestion and absorption of nutrients and major nutrient groups. The second block will look on relevant aspects of clinical nutrition for oral health, focusing on aspects related to age, gender and existence of systemic pathology. The third block will present the nutritional aspects related to oral health.

INTERNSHIP (30 ECTS)

The aim of the internship is to apply all previously learned knowledge in a professional context. The internship has two components - Clinical and Community. In the clinical field the student has to do give dental hygiene appointments at the Dental School, hospitals and private practices settings. In the field of community the student has to plan, implement and evaluate oral health programs targeting various population groups in a Health Center.

SCHOOL AND COMMUNITY DENTAL HYGIENE IV (2 ECTS)

This course is formulated to promote integration and participation of students in community activities with disabled individuals. It will give students the practical application of theoretical and practical knowledge acquired in other courses of the dental hygiene program.