



Federal Public Service
Ministry of Education
Federal University of Uberlândia
Dentistry College
Programa de Pós-graduação em Odontologia

Mandatory and elective disciplines

PhD Degree

Programa de Pós-Graduação em Odontologia
da Universidade Federal de Uberlândia



Table 1 - Mandatory disciplines for PhD degree.

Discipline	Description
Advanced methods of bibliographic, scientific and bioestatistic research	To provide to the students an advanced understanding of biostatistics applied to Dentistry, providing subsidies for the adequate application of statistical techniques in the planning and statistical analysis of scientific studies, as well as in the ability to train their future students.
Fundamentals of Scientific Supervision I	The PhD student must be able to select an undergraduate student to develop Scientific Initiation research; formulate research project and the work plan; to know the different notices of development agencies that finance scholarships and research projects; submission of projects to development agencies; acting in the orientation of undergraduate students in the initiation to the investigative process together with their supervisor.
Fundamentals of scientific supervision II	The PhD student must be able to analyze the data and write a scientific report of the project developed by the Scientific Initiation student; submit report to development agencies; prepare an accountability plan and final financing report and also assist the Scientific Initiation student in writing scientific paper. This course is linked to the initial development of the Fundamentals of Scientific Supervision I.
Specific pedagogic practice III	To contribute to the training and involvement of the PhD student with teaching routines, in the view of the development of the teaching-learning process with actions in the activities of teaching, extension and research, in order to monitor, assist and develop knowledge together with students regularly enrolled in the concentration area ; produce audio-visual teaching material and scientific dissemination.
Writing of scientific papers	To improve the process of writing, revising and submitting scientific papers, obtaining a critical sense to adapt the pedagogical proposals of the program and the area of performance of each advisor to the financial realities, as well as future work of their own.

Table 2 - Elective disciplines for PhD degree.

Discipline	Description
Advanced topics in stomatology	To provide to the student the basic training in stomatological diagnosis in order to identify the main oral conditions and indicate the best therapy for each case in the daily activity in undergraduate dental clinic.
Analysis of the evolution and treatment of the TMJ disorders	To enable the student to make a critical analysis of clinical situations, diagnosing and proposing possible treatment plans for the treatment of TMJ disorders
Applied morphological fundaments- the stomatognathic apparatus	Discuss the light of current scientific literature, the morphological aspects related to anatomy and histology of the stomatognathic apparatus relating development, structure, and function.
Applied topics in oral pathology	To provide to the student the development of skills in the recognition of the main general pathological processes applied to oral diseases, from the analysis of histopathological aspects and discuss the clinical aspects of diseases.
Basic aspects of the oral diseases manifestations	The course aims at a broad review of the main concepts related to the pathogenesis and clinical expression of oral cancer, in its prevalent forms, considering its natural history and prognosis.
Bioethics and ethics in research	The discipline is focused on Bioethics applied to scientific research, seeking the students to develop their ability to evaluate, propose, plan and execute research projects with appropriate methodologies and the normative instruments applicable to scientific research with human beings and animals in Brazil.
Biological evaluation of the dental materials	To provide to the student the possibility of improving the current knowledge related to the biological assessment tests of dental materials, enabling their application, improving their critical capacity in the face of the evaluation of research related to the subject, allowing their academic development, with a focus on research.

Discipline	Description
Biomimetism as a dental research tool	To knowing and arousing interest regarding different experimental methods used as research tools in the study of dental biomaterials, seeking to mimic biological events. To identify the applications and objectives of each experimental laboratory method.
Buco-maxillo-facial traumatology	To formulate a discipline plan that involves the most prevalent oral-maxillofacial traumatic events. To prepare a discipline for graduation with a focus on emergency care for polytraumatized patients and in an informative manner will have knowledge of scientific methodologies involved in current work involving dento-facial trauma.
Cariology – preventive and research techniques	This course aims at basic knowledge for the planning and development of methodologies in laboratory and clinical research in Cariology.
Company research internship	This internship will enable the student's the experience with partner companies in the field of dental product development in stages in research and development with direct performance in the production line and product evaluation.
Current implant dentistry	It aims to qualify the graduate student to act in the teaching-learning process of undergraduate students with regard to the current knowledge of implantology on surgical and prosthetic aspects of osseointegrated implants.
Determinants of periodontology and prosthesis inter-relationship	The discipline will be able to incorporate important knowledge in the formation of the graduate student on the scientific, didactic and pedagogical knowledge of the interrelationships between the periodontal structures and the prosthetic rehabilitation procedures.
Experimental biomechanical methods	To know and execute different experimental methods of biomechanical analysis of dental materials and dental structures and their applications in the process of rehabilitation of the stomatognathic apparatus.
Experimental methods in implantodontology	To stimulate the discernment of the main methodologies applied to experiments in Implantology in order to be able to apply them in different studies.
Finite elements methods applied in dentistry	The course aims to introduce the essential concepts and unifying basis of the numerical methods most used in computational models in biomechanics. It is also intended that the student acquires a comprehensive concept of the nature and applicability of these methods and, consequently, some resourcefulness to address complex problems.
Fisical and biological aspects of the dental materials	To demonstrate the importance of scientific criteria in the evaluation of dental materials, from a biological, physical and mechanical point of view.
Fisiopatology and mechanisms of repair process	To incorporate important knowledge in the training of graduate students in relation to the various stages of the repair process, its reflexes in the predictability of surgical procedures of the stomatognathic apparatus.
Imageology in dentistry	It aims at the master / doctorate student the knowledge of Imageology in contemporary dentistry and to interpret the most relevant exams for dentistry and supply these diverse forms of imaging methods in dental research.
Integrated clinic clínica to generate educational material and clinical research (1 and 2)	To act in patient care in an integrated manner for the generation of photographic documentation and generation of didactic material. Generation of database clinical data for presentation and discussion in integrated clinical seminars and for clinical research and epidemiological analysis
Laboratory methods applied to diagnosis and study of the biological behavior of head and neck diseases	The student should be able to understand the biological and chemical principles of basic laboratory methods for the study of diseases, with an emphasis on those used for the diagnosis and assessment of biological behavior.
Management of the technological innovation and Intellectual property	To contribute to the training and involvement of the PhD student with the routines of technological innovation and the domain of intellectual property, in view of the development of the country's development process. During the development of the discipline, it is expected that the PhD students to become familiarized with the activities of the research and technology transfer with consequent generation of technological innovation, domain of intellectual property.
Mechanisms of action of the biomaterials	It aims the didactic-pedagogical training of post-graduate students, providing them with scientific and technological knowledge regarding the application of biomaterials in the dental field to be used in different areas of knowledge.

Discipline	Description
Methods in clinical research	Seminars, discussion groups and critical reading of articles will be used to build reflective and critical awareness, based on the ethical, biological, mechanical and psycho-social conditions that substantiate clinical research aimed at the development of evidence-based dentistry.
Photography and digital catalog for educational and research material	To develop photographic protocols targeted for digital cataloging in experimental and clinical research and establish the teaching and research relationship by applying knowledge and protocols of Dental photography, generation of didactic material, and creation of digital media for the dissemination of clinical cases.
Prosthetic rehabilitations supported by implants	It aims to build reflective and critical awareness, based on the biological, mechanical, and psychosocial conditions that substantiate the diagnosis, planning and application of implants in oral and facial rehabilitation, reflecting on the clinical and laboratory aspects for making prostheses on implants.
Received studies	It has a flexible objective, compatible with the activities that can be used in different postgraduate courses and duly justified and proven by the supervisor to the PPGO collegiate body.
Research methods in the evaluation of the orofacial pain and sleep disorders	Students will be involved in the diagnosis and treatment of orofacial pain and sleep disorders. The, the students need to discuss laboratory and clinical research methods for orofacial pain and its complications.
Salivary diagnosis of oral and systemic diseases	The course aims at clinical and laboratory knowledge about changes in salivary secretion caused by systemic and oral diseases.
Scientific basis of the occlusal rehabilitation	To enable the student to make a critical analysis of the most varied clinical situations, diagnosing changes in functions, and proposing possible treatment plans for the rehabilitation of the stomatognathic apparatus, with its advantages and disadvantages. Thus, implementing integrated teaching in the practice of clinical activities.
Scientific basis of the preventive and restorative dentistry	To identify preventive aspects of caries disease acting conservatively in its treatment. In addition, this discipline will provide the knowledge about the non-invasive techniques and restorative techniques integrated with direct and indirect materials and their integration with the process of rehabilitation of the stomatognathic apparatus.
Scientific basis of the rehabilitation of the endodontic treated teeth	To expose the students the current concepts in Endodontics, in order to familiarize the students with the different methods to restore endodontic treated teeth with technical procedures with clinical longevity in the resolution of these problems.
Seminars and research project development in english	The aim of this discipline is to prepare the PhD students for teaching and research activities in English. Will be introducing the students in the preparation and presentation of poster, oral presentation in congresses and lectures of different topics in dentistry. Will be also to prepare the student for PhD thesis defense in English when defined by PhD Student and Mentor. The students will be involved in seminars, teaching lectures, videoconference and other activities with professor of the Graduated program and professor for international universities to develop the language and atmosphere preparation for future events and visiting for research collaboration.
Special topics in dentistry (I, II, and III)	To address current and relevant research topics at different levels that adhere to the research lines of the Post-Graduation Program in Dentistry taught by PPGO professors and national and international visiting professors. It also seeks to create means of offering special curricular content taught by professors from other programs defined through academic mobility financed by the Program or by national and international funding agencies.