

DENTAL DIAGNOSTIC SCIENCE (DIAG)

Courses

DIAG 5007. Graduate OMR Clinic. 3 Credit Hours.

The Graduate Radiology Clinic is in operation five full days per week. Services include intra- and extra-oral radiography, panoramic, cephalometric, linear, and multi-directional tomography; sialography; arthrography; CT image processing; and planned CT image acquisition.

DIAG 5015. Panoramic Radiology. 1 Credit Hour.

This lecture course includes topics such as the principles of panoramic radiology, concepts of panoramic image formation, review of anatomic structures, clinical techniques, and recognition and correction of panoramic errors. Also, the uses and limitations of panoramic radiology as well as digital panoramic radiology will be discussed. The goal is to achieve competency in this subject matter. Proficiency will be achieved during clinical rotations in panoramic radiology as part of the graduate OMR clinic experience.

DIAG 5016. Head & Neck Anatomy. 1 Credit Hour.

This review course is designed to provide the resident with the opportunity to acquire an anatomical foundation for oral and maxillofacial radiology. The course uses interactive computer-based head and neck clinical anatomy software as well as digital libraries of radiographic and cross-sectional anatomical specimens. Numerous Internet-based references are also used to provide the student with the most up-to-date and graphic information. Clinical anatomic information is correlated with plain film, CT, and MRI images to provide a contextual reference between clinical and radiographic anatomy. Written and oral examinations are given to assess competency in this area.

DIAG 5017. Literature Review. 1 Credit Hour.

Each week a topic in Oral and Maxillofacial radiology is discussed. In addition, students receive a block of instruction in evidence-based literature evaluation. At each session a student leader presents from 2-4 papers that meet the current topic. Articles are approved by the course director beforehand for scientific accuracy, validity, and relevance. Students are expected to read the articles before the session and participate in the group discussion. Discussion is facilitated by a question and response format led by the course director. Literature from past reviews is filed for student reference.

DIAG 5018. Practicum In Oral Medicine. 4 Credit Hours.

Practice in clinical skills required for diagnosis, management, and treatment of oral and perioral diseases, including such special procedures as sialography, cytological smearing, biopsy, and culture taking is offered. A comprehensive review of the conditions that the dentist may be called upon to diagnose and treat as the result of the physical examination of the patient is the focus of this course. Topics include extraoral findings such as general appearance of the hands, eyes, ears, nose and neck; intraoral findings such as lesions as in lip swelling or palatal swelling; and color changes, surface changes, and other problems such as pain and functional disorders.

DIAG 5026. Diagnostic Imaging Of The Jaws. 4 Credit Hours.

The goal of this class is to achieve competency regarding the interpretation of plain and advanced images of hard and soft tissue conditions affecting the teeth, jaws, and surrounding structures of the maxillofacial complex including, but not limited to, the paranasal sinuses, salivary glands, and trauma. The material is presented and repeated through three basic formats: by pattern recognition, by disease process, and as further analyzed using contrast studies, CT, MR, nuclear scans, and ultrasound images where applicable. This course forms the basis for more advanced seminar and clinical courses through which proficiency is required to be achieved.

DIAG 5037. Oral And Maxillofacial Radiology Interpretation 1. 1 Credit Hour.

The overall purpose of this course is to provide students with learning experiences that will give them the opportunity to develop proficiency in OMR image analysis and interpretation. This course meets in one-hour sessions with a seminar or grand rounds format. Each week, students receive cases and are requested to generate a written report and present the case to other students and faculty. Cases include a variety of diagnoses that comprise the field of oral and maxillofacial radiology including both typical and unusual examples. Additionally, high-quality, properly exposed images are supplied. Many examples include plain film, CT, and MR for the same case. Additional cases include other imaging modalities such as tomograms, contrast studies, and nuclear scans. In some instances, glass slides and a microscope are used to correlate histological features with MR images, an activity much requested by students. Imaging particular to salivary gland disease and TMJ disorders will also be emphasized. Students will record these cases in a special section of their logbook and may, circumstances permitting, copy the cases for future reference or teaching. The course director's collection of cases is one of the most extensive and is broadly representative and thus guarantees the student exposure to a variety of clinical cases which cannot be assured through the various clinical experiences during the time frame of the program.

DIAG 5040. Basic Principles Of Oral And Maxillofacial Imaging. 2 Credit Hours.

This is a didactic and clinical course aimed at providing oral and maxillofacial radiology residents with basic knowledge of oral and maxillofacial radiographic anatomy and helps the residents develop proficiency in routine and special OMF imaging procedures. The course consists of a complete review of plain film techniques used in OMF radiography and hands-on imaging exercises with radiographic phantoms. The radiographic anatomy displayed on these projections will be reviewed in lecture and exercise format using the practice phantom films and radiographic anatomy review sets. Bony anatomy and organ-based anatomy will be reviewed.

DIAG 5045. Radiation Physics. 3 Credit Hours.

This course presents the fundamental principles of radiation physics as they apply to medical and dental diagnostic radiology. Topics include the nature and production of X-rays, interactions of X-rays with matter, the physics of films and intensifying screens, the nature of the radiographic image, fundamentals of radiation dosimetry and protection, principles of tomography, and panoramic radiography. Topics also include computed tomography, particulate radiation and nuclear medicine, ultrasound, and digital image receptors and displays. Laboratory sessions provide a wide range of experience in institutional trainings and a course capstone project.

DIAG 5050. Fundamentals of Dental Radiography. 1 Credit Hour.

This lecture course reviews the basics of diagnostic radiography and introduces the latest techniques. Review includes sessions on exposure factors, projection techniques, film processing, and radiation protection. The major extraoral technique stressed in the course is panoramic radiography, including normal anatomy, technique errors, and interpretation. Skull projections are reviewed and basic principles and indications of special techniques such as xeroradiography, CT, nuclear medicine, and others are presented as time allows.

DIAG 5070. Supervised Teaching. 1 Credit Hour.

Graduate students are assigned to the various clinics, laboratories, and classes for the opportunity to acquire experience in teaching undergraduate students in a variety of situations. Supervision and evaluation of teaching performance is provided by the graduate faculty.

DIAG 5091. Case Conference. 1 Credit Hour.

This course meets weekly and serves as a venue for students to plan and present their cases to other students and faculty, and supply follow-up information where feasible.

DIAG 5092. Diag Science Seminar. 1 Credit Hour.

The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.

DIAG 5093. Diag Science Seminar. 1 Credit Hour.

The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.

DIAG 6005. Clinical Path Conference. 1 Credit Hour.

Formal review of clinical, radiographic, and histopathologic presentations of various conditions affecting the head and neck area and the oral cavity, in particular, is presented. A variety of cases are presented for group discussion with a view toward obtaining a differential diagnosis.

DIAG 6007. Graduate Oral And Maxillofacial Clinic. 3 Credit Hours.

The Graduate Radiology Clinic is in operation five full days per week. Services include intra- and extra-oral radiography, panoramic, cephalometric, linear, and multi-directional tomography; sialography; arthrography; CT image processing; and planned CT image acquisition.

DIAG 6008. Orofacial Pain. 2 Credit Hours.

This course is designed to introduce the student to the field of orofacial pain. The course objectives include: introduction to orofacial pain, assessment of orofacial pain disorders, diagnostic classification of orofacial pain disorders, differential diagnosis and management of vascular intracranial disorders, differential diagnosis and management of neuralgias, nerve trunk pain and deafferentation pain, differential diagnosis and management of intraoral pain, differential diagnosis and management of temporomandibular disorders, and differential diagnosis and management of mental disorders.

DIAG 6009. Noninfectious Diseases/Oral Mucosa. 2 Credit Hours.

This course is designed to discuss a selected group of diseases of the oral mucosa with the primary purpose of presenting diagnostic and therapeutic guidelines. The role of oral medicine specialists in the care of noninfectious oral mucosal diseases, appropriate (e.g., timely and accurate) consultations/referral, definitive therapy, clinical review (e.g., the disease and/or side-effects of therapy), disease prevention, and counseling of patients and relatives will be discussed.

DIAG 6017. Literature Review. 1 Credit Hour.

Each week a topic in Oral and Maxillofacial radiology is discussed. In addition, students receive a block of instruction in evidence-based literature evaluation. At each session, a student leader presents from 2-4 papers that meet the current topic. Articles are approved beforehand by the course director, for scientific accuracy, validity, and relevance. Students are expected to read the articles before the session and participate in the group discussion. Discussion is facilitated by a question and response format led by the course director. Literature from past reviews is filed for student reference.

DIAG 6018. OMR Case Conference. 1 Credit Hour.

This course meets weekly and serves as a venue for students to plan and present their cases to other students and faculty, and supply follow-up information where feasible.

DIAG 6019. Chemosensory Disorders/Salivary GI Dysfunctions. 2 Credit Hours.

Chemosensory disorders affect in particular disproportionately a large segment of the elderly population, the fastest growing segment of the western industrialized nation. Also saliva plays a major role in the preservation and protection of the oral and pharyngeal tissues. When salivary gland function is altered, multiple stomatologic and systemic disorders can develop. This graduate level elective course is designed to make the graduate student (oral medicine) aware of the etiology, prevalence and mechanisms of normal and diseased chemosensation and salivary gland functions of the oral cavity. Its focus will be on the diagnosis and management of patients with taste, smell and salivary gland dysfunctions.

DIAG 6020. Tumor Board. 1 Credit Hour.

The class meets for one hour once a week at the MARC building and is sponsored by the Department of Otolaryngology and Head and Neck Surgery. Students will have the opportunity to learn case management and prognosis of patients with oral and maxillofacial and head and neck tumors, exposure to the diagnostic imaging work-up of the patients presented, interact with attending medical and dental specialists, attend special seminars related to tumor board, and have an opportunity to interact with various medical residents for further learning opportunities. Students are expected to share some of their learning experiences and present cases during case conferences to other OMR program venues such as graduate clinic.

DIAG 6021. Medical Radiology Rotation. 2 Credit Hours.

Medical radiology training occurs within the dental school using image-acquired data from a medical clinic. It also occurs in the University Hospital, at Wilford Hall Medical Center at nearby Lackland Air Force Base, and in a private radiology clinic. Cases using advanced imaging are available in the program director's extensive collection to further enhance medical radiology training. A minimum of 7.5 semester credit hours are required. Each student must enroll in a minimum of three one-month rotations.

DIAG 6022. Practicum In Oral Medicine. 6 Credit Hours.

Practice in clinical skills required for diagnosis, management, and treatment of oral and perioral diseases, including such special procedures as sialography, cytological smearing, biopsy, and culture taking is offered. The focus of this course is a comprehensive review of the conditions that the dentist may be called upon to diagnose and treat as the result of the physical examination of the patient. Topics include extraoral findings such as general appearance of the hands, eyes, ears, nose and neck; intraoral findings such as lesions in lip swelling or palatal swelling; and color changes, surface changes, and other problems such as pain and functional disorders.

DIAG 6025. Diagnostic Imaging Of The Head And Neck. 4 Credit Hours.

The goal of this course is to achieve competency regarding the interpretation of plain and advanced images of hard- and soft-tissue conditions affecting the teeth, jaws and surrounding structures of the maxillofacial complex including, but not limited to, the paranasal sinuses, salivary glands, and trauma. The material is presented and repeated through three basic formats: by pattern recognition, by disease process, and as further analyzed using contrast studies, CT, MR, nuclear scans and ultrasound images where applicable. This course forms the basis for more advanced seminar and clinical courses through which proficiency is required to be achieved.

DIAG 6027. Advanced Imaging Technology. 3 Credit Hours.

This class will provide oral and maxillofacial radiology residents with proficiency level understanding of the physical principles of all the advanced imaging methods and techniques such as computed tomography, magnetic resonance imaging, ultrasounds, and radionuclide imaging commonly used in medical care, and understand the clinical applications of these advanced imaging modalities. This will also cover the fundamental basis for digital imaging, image enhancement and restoration, image analysis, image compression, image synthesis and image displacement.

DIAG 6041. Radiation Biology. 2 Credit Hours.

An introductory course in the basic concepts of radiation biology, this course is appropriate for dentists desiring an opportunity to gain additional knowledge of the biological effects of diagnostic and therapeutic levels of x-radiation. Concepts of designing an office for optimum radiation protection also are presented.

DIAG 6043. Advanced Radiation Biology. 1 Credit Hour.

An in-depth study of radiation biology is presented, emphasizing such topics as radiation risk, dosimetry, theories of radiation damage, radiation hygiene and protection, and the effects of therapeutic levels of radiation on the oral tissues.

DIAG 6049. Oral And Maxillofacial Radiology Interpretation 2. 1 Credit Hour.

The overall purpose of this course is to provide students with learning experiences that will give them the opportunity to develop proficiency in OMR image analysis and interpretation. This course meets in one-hour sessions with a seminar or grand rounds format. Each week, students receive cases and are requested to generate a written report and present the case to other students and faculty. Cases include a variety of diagnoses that comprise the field of oral and maxillofacial radiology including both typical and unusual examples. Additionally, high-quality, properly exposed images are supplied. Many examples include plain film, CT, and MR for the same case. Additional cases include other imaging modalities such as tomograms, contrast studies, and nuclear scans. In some instances, glass slides and a microscope are used to correlate histological features with MR images, an activity much requested by students. Imaging particular to salivary gland disease and TMJ disorders will also be emphasized. Students will record these cases in a special section of their logbook and may, circumstances permitting, copy the cases for future reference or teaching. The course director's collection of cases is one of the most extensive and is broadly representative and thus guarantees the student exposure to a variety of clinical cases which cannot be assured through the various clinical experiences during the time frame of the program.

DIAG 6051. Oral And Maxillofacial Radiology Interpretation 3. 1 Credit Hour.

The overall purpose of this course is to provide students with learning experiences that will give them the opportunity to develop proficiency in OMR image analysis and interpretation. Students receive cases and are requested to generate a written report and present the case to other students and faculty. Cases include a variety of diagnoses that comprise the field of oral and maxillofacial radiology including both typical and unusual examples. Additionally, high-quality, properly exposed images are supplied. Many examples include plain film, CT, and MR for the same case. Additional cases include other imaging modalities such as tomograms, contrast studies, and nuclear scans. In some instances, glass slides and a microscope are used to correlate histological features with MR images, an activity much requested by students. Imaging particular to salivary gland disease and TMJ disorders will also be emphasized. Students will record these cases in a special section of their logbook and may, circumstances permitting, copy the cases for future reference or teaching. The course director's collection of cases is one of the most extensive and is broadly representative and thus guarantees the student exposure to a variety of clinical cases which cannot be assured through the various clinical experiences during the time frame of the program.

DIAG 6052. Case Conference 3. 1 Credit Hour.

Oral and Maxillofacial radiology resident will plan and present an assigned case to other students and faculty and provide follow up information where feasible. It will enhance the residents ability to write and present accurate case reports; teaches the ability to plan a case, and interact with the referring practitioner, and enhance their ability to recognize imaging characteristics of a disease or condition.

DIAG 6071. Supervised Teaching. 1 Credit Hour.

Graduate students are assigned to the various clinics, laboratories, and classes for the opportunity to acquire experience in teaching undergraduate students in a variety of situations. Supervision and evaluation of teaching performance are provided by the graduate faculty.

DIAG 6078. Literature Review 3. 1 Credit Hour.

During this course, oral and maxillofacial radiology residents will review the principles of evidence based medicine and learn how it applies to reviewing scientific articles. At each class session, a student will present articles from the current or classic radiology literature including radiation safety, periodontal disease, CT, systemic disease, digital imaging, endodontic disease, MRI, implants, bite-wings, tomography, developmental disorders, selection criteria, panoramic radiology, sectional criteria, trauma, forensics, inflammation, QARM, Caries, TMJ, tumors and biomedical modeling. Prerequisites: DIAG 6017.

DIAG 6079. Graduate OMR Clinic 3. 3 Credit Hours.

The Graduate Radiology Clinic operates 4.5 days per week and provides opportunities for oral and maxillofacial radiology residents to develop skills in intra- and extra oral radiography, panoramic, cephalometric, linear and multi-directional tomography, sialography, arthrography, and CT imaging processing and planned CT image acquisition. Prerequisites: DIAG 6007.

DIAG 6091. Diagnostic Science Seminar. 1 Credit Hour.

The format of this course includes presentations, reviews, and discussions of current cases from the Dental Diagnostic Science Clinic as well as cases of interest from the teaching file.

DIAG 6135. Clinical Case Conference. 1 Credit Hour.

Each student will be assigned one or more cases to cover in a written report and to present in conference. Over two semesters, weekly conferences will allow for a large variety of representative pathoses to be reviewed and discussed. Students will have the opportunity to correlate the historical, clinical, and radiographic findings in the formation of a differential diagnosis or a diagnostic impression.

DIAG 7036. Radiographic Interpretation. 1 Credit Hour.

This is a comprehensive didactic course in dental radiologic interpretation of diseases of the jaws including differential radiological diagnosis of developmental abnormalities and pathological lesions of the teeth and jaws.

DIAG 7052. Geriatrics. 1.5 Credit Hour.

Lectures and seminars emphasizing dental management of the geriatric patient cover such topics as normal aging, treatment planning, pharmacologic considerations, management and communication techniques, dementias, dentistry for nursing home and homebound elderly, and clinical care.

DIAG 7055. Oral Medicine. 2.5 Credit Hours.

Lectures, demonstrations, and visual aids present the fundamentals of diagnosis and treatment in general medicine and surgery as they relate to dentistry. Students have the opportunity to demonstrate skill in physical diagnosis in laboratory sessions.