**CENTER FOR ADVANCED DENTAL EDUCATION (CAD)**

**CAD 5010 - Pain: Anatomy, Physiology, Psychology, Treatment**  
Credit(s): 1 Credit  
Explores multiple topics of pain with special emphasis on head and neck pain and conditions and/or syndromes that mimic dental pain. Protocols for dealing with both dental and non-dental "pain patients" will be addressed. Offered every year.

**CAD 5030 - Advanced Oral Microbiology**  
Credit(s): 2 Credits  
Examines the interface of human host and its microbial inhabitants converging to cause disease. Describes oral ecosystems resulting from interaction between human anatomy and physiology and microbial populations and their physiology with emphasis on the pulpal, periapical, and periodontal regions. Includes factors that maintain population balance and health or cause population imbalance and disease in these ecosystems. Includes management and prevention of oral microbial disease. Offered every year.

**CAD 5040 - Molecular Biology of the Cell**  
Credit(s): 2 Credits  
Up-to-date cell and molecular biology of the tooth and supporting structures. Attention given to molecular structure and function of composite proteins of tooth and bone and to cellular and physiological mechanisms key to driving development and repair. Offered every other year.

**CAD 5050 - Introduction to Statistical Inference**  
Credit(s): 3 Credits  
Nature of measurement in graduate dentistry. Basic principles and techniques of research analysis, particularly in graduate dental research. Introduction to probability theory and sampling theory; criteria of reliability and validity. Fundamental concepts of descriptive and inferential statistics, introduction to levels of measurements and application of parametric and non parametric tests. Offered every year.

**CAD 5060 - Ethics and Dentistry**  
Credit(s): 0 Credits  
In general, the course studies the cross-cultural context for ethics discourse in dental education and practice. In particular, the course considers relevant ethical methods, principles, and codes of professional conduct as well as ethical decision making processes to engage and resolve applied ethical issues in dentistry. Offered every year.

**CAD 5070 - Bone and Periodontal Physiology**  
Credit(s): 2 Credits  
Fundamental mechanisms of growth, development, repair and life-long adaptation of the musculoskeletal system, face, temporomandibular joints and periodontium.  
**Restrictions:**  
Enrollment limited to students in the Center for Advanced Dental Ed college.

**CAD 5100 - Dental Therapeutics**  
Credit(s): 1 Credit  
A comprehensive review of the pharmacological considerations of clinical dentistry. Special emphasis is placed on dentally prescribed medications and their effects on systemic disease and associated systemic drugs. Offered every year.

**CAD 5110 - Principles of Practice Management**  
Credit(s): 1 Credit  
This second of two practice management courses will cover a broad range of business-management topics with an emphasis on application of concepts. Offered every year.

**CAD 5130 - Multidisciplinary Diagnostic and Treatment Plan II**  
Credit(s): 0 Credits  
Diagnosis and treatment planning of various types of multidisciplinary dental problems through case studies. Various diagnostic and treatment modalities are discussed in order to render the most efficacious plan of patient treatment. Application of biomedical sciences to clinical oro-facial problems at the dental specialty level. Continuation of Multidisciplinary Diagnosis and Treatment Planning I. Offered every year.

**CAD 5140 - Temporomandibular Disorders**  
Credit(s): 0-1 Credits  
A lecture series to improve the understanding of TMJ disease and related disorders and to provide a rationale for differential diagnosis and treatment. Offered every year.

**CAD 5160 - Advanced Oral Medicine**  
Credit(s): 1 Credit  
Material on oral diagnosis and oral medicine is presented to develop the ability to make an accurate diagnosis of oral and general diseases. Special emphasis is placed on treatment of the medically compromised patient. Offered every year.

**CAD 5170 - Advanced Oral Pathology**  
Credit(s): 1 Credit  
Oral diseases with similar clinical appearances are presented. A differential diagnosis will be developed. For each entry, the etiology, biologic history, clinical features, histologic characteristics, progress, and current treatment will be identified. Offered every other year.

**CAD 5190 - Advanced Head and Neck Anatomy**  
Credit(s): 2 Credits  
Discussion and laboratory demonstrations of the anatomy of specific areas of the head and neck that relate to dental practice. Emphasis will be placed upon the interrelationships, clinical significance, and variation of the structures studied. Offered every year.

**CAD 5220 - Clinical Immunology**  
Credit(s): 1 Credit  
A comprehensive review of inflammation and immunity and how they harm or protect the host with special emphasis on clinical dentistry. Offered every year.

**CAD 5240 - Temporary Skeletal Anchorage**  
Credit(s): 1 Credit  
To introduce the orthodontic and periodontic resident to prosthetic implants and to mini-screws and mini-bone plates for orthodontic anchorage; toward evaluation of the patient holistically, the site, the local physiology, and biocompatibility in anticipation of implant-surgery; to become familiar with placement-surgery, loading the implant (or temporary anchorage-device), maintenance, implant-removal surgery, and bone regeneration; to review the biomechanics involving use of temporary anchorage devices in orthodontic therapy; and to discuss autotransplantation for various dental purposes.  
**Restrictions:**  
Enrollment limited to students in the Center for Advanced Dental Ed college.
CAD 5250 - Multidisciplinary & Evidence Based Diagnosis & Treatment Planning
Credit(s): 2 Credits
Diagnosis and treatment planning of various types of multidisciplinary dental problems through case studies. This course is a patient-centered approach to treatment decisions which provide personalized treatment based on the most current scientific knowledge. Along with the professional skill and expertise, this course allows students to stay up-to-date on the latest procedures and patients to receive improved treatment. Offered only to CADE Graduate Dental Students.
Restrictions:
Enrollment limited to students in the Center for Advanced Dental Ed college.

CAD 5950 - Special Study for Exams
Credit(s): 0 Credits (Repeatable for credit)