

Dental Education Programs

Program	Learning Objectives	
	Knowledge Base	Learning Pedagogy and Framework
Craniofacial Biology PhD	<p><u>Fully proficient knowledge of:</u></p> <ul style="list-style-type: none"> <li>• Normal and pathological craniofacial development</li> <li>• Genetic disease</li> <li>• Biomineralization of dental hard tissues</li> <li>• Biosynthetic and biocompatible materials development</li> <li>• Stem-cell biology and tissue engineering</li> <li>• Dental pathologies affecting the dentition and surrounding tissues, including periodontitis, osteonecrosis, and pulpitis</li> </ul> <p><u>Working knowledge of:</u></p> <ul style="list-style-type: none"> <li>• Wide range of research methodologies</li> <li>• Biochemistry</li> <li>• Biostatistics</li> <li>• Ethical issues in research</li> </ul>	<ul style="list-style-type: none"> <li>• Identify contemporary craniofacial and developmental biology research questions</li> <li>• Integrate biomedical knowledge and research methodologies to design and complete complex laboratory-based research projects</li> <li>• Successfully prepare and defend laboratory research project at the PhD level using oral and written communication skills</li> <li>• Obtain leadership roles in dental education and research as an academic or senior scientist in an academic institution or industry setting</li> </ul>
Craniofacial Biology MS	<p><u>Working knowledge of:</u></p> <ul style="list-style-type: none"> <li>• Normal and pathological craniofacial development</li> <li>• Genetic disease</li> <li>• Biomineralization of dental hard tissues</li> <li>• Biosynthetic and biocompatible materials development</li> <li>• Stem-cell biology and tissue engineering</li> <li>• Dental pathologies affecting the dentition and surrounding tissues, including periodontitis, osteonecrosis, and pulpitis</li> </ul> <p><u>Working knowledge of:</u></p> <ul style="list-style-type: none"> <li>• Selected research methodologies</li> <li>• Biochemistry</li> <li>• Biostatistics</li> <li>• Ethical issues in research</li> </ul>	<ul style="list-style-type: none"> <li>• Familiarity with contemporary research methodologies</li> <li>• Critically analyze research papers</li> <li>• Integrate biomedical knowledge and research methodology to complete a laboratory-based research project</li> <li>• Successfully prepare and defend laboratory research project at the Master’s level using oral and written communication skills</li> <li>• Obtain leadership or supportive roles in dental education and research or in the dental community</li> </ul>

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Geriatric Dentistry MS (on-line)	<ul style="list-style-type: none"> <li>• Differentiate between normal physiologic aging and pathologic aging</li> <li><u>Fully proficient knowledge of the dental and health needs of older patients, including:</u></li> <li>• Oral tissue changes, common geriatric oral health problems and their treatments</li> <li>• Signs, symptoms, diagnosis, monitoring and disease progression in geriatric patients</li> <li>• Pharmacology, common medications used by older patients, and how to understand drug interactions in complex prescriptions</li> <li>• Common oral lesions and orofacial pain conditions present in older adults</li> <li>• Critical treatment modifications necessary for oral care of patients with systemic diseases</li> <li>• Epidemiologic, sociologic, psychosocial, and other facts that impact oral health care</li> <li>• Treating difficult and complex dental conditions in older patients</li> <li><u>Fully proficient knowledge of the older dental patient with respect to:</u></li> <li>• Neurogenic Orofacial Pain</li> <li>• Soft-tissue Disease</li> <li>• Bony Pathology</li> <li>• Radiology and Advanced Imaging</li> <li>• Systems Physiology</li> <li>• Motor Disorders</li> <li>• Sleep Apnea</li> </ul>	<ul style="list-style-type: none"> <li>• Analyze complex geriatric cases with respect to physiologic, medical, dental management and social and behavioral issues through development of Case Portfolio.</li> <li>• Demonstrate knowledge of contemporary research methods and resources through completion of Capstone Research Project</li> <li>• Continuously assess knowledge and internalize feedback through weekly on-line conferences</li> </ul>

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Orofacial Pain and Oral Medicine MS (on-line)	<p><u>Fully proficient knowledge of the dental needs of patients with orofacial pain conditions, including:</u></p> <ul style="list-style-type: none"> <li>• Chronic facial pain (neurogenous pain and headache)</li> <li>• Snoring and Obstructive Sleep Apnea</li> <li>• Temporomandibular Derangements and Arthritis</li> <li>• Headaches</li> <li>• Various Oral Soft and Hard Tissue Diseases of Jaws and Mouth</li> <li>• Salivary Gland Disorders</li> <li>• Oral Cancer and Precancerous Lesions</li> <li>• Masticatory musculoskeletal pain</li> <li>• Neurogenic orofacial pain</li> <li>• Sleep disorders related to orofacial pain</li> <li>• Temporomandibular disorders</li> <li>• Orofacial motor disorders including orofacial dystonias and bruxism</li> <li>• Intraoral, intracranial, extracranial and systemic disorders</li> </ul> <p><u>Fully proficient knowledge of the dental needs of patients with oral medicine conditions such as:</u></p> <ul style="list-style-type: none"> <li>• Oral mucosal diseases and infections</li> <li>• Burning mouth</li> <li>• Immunopathologic diseases</li> <li>• Neoplastic diseases</li> <li>• Osseous diseases including bisphosphonate osteonecrosis</li> <li>• Salivary gland disorders and dysfunction</li> <li>• Pharmacologic-related and systemic disorders that cause oral disease</li> </ul>	<ul style="list-style-type: none"> <li>• Analyze chronic orofacial pain, mucosal and osseous diseases seen in the oral and maxillofacial region with respect to physiologic, medical, dental management and social and behavioral issues through development of Case Portfolio.</li> <li>• Demonstrate knowledge of contemporary research methods and resources through completion of Capstone Research Project</li> <li>• Continuously assess knowledge and internalize feedback through weekly on-line conferences</li> </ul>

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Dental Surgery (Doctor of Dental Surgery/DDS)	<p><u>General Professional Doctoral Competencies:</u></p> <ul style="list-style-type: none"> <li>• Provide empathic care for all individuals, including those from diverse, disadvantaged, and “at risk” populations in a variety of practice settings.</li> <li>• Apply ethical, legal and regulatory policies and principles to the provision and/or support of oral health care services.</li> <li>• Apply principles of self-assessment, critical-thinking, and problem solving, and seek information to enhance professional competency.</li> <li>• Develop skills to access, critically appraise, apply and communicate scientific literature as it relates to providing evidence-based patient care.</li> </ul> <p><u>Practice Management Competencies:</u></p> <ul style="list-style-type: none"> <li>• Understand the differences between various models of oral health care delivery and financing.</li> <li>• Understand the principles, regulations, and procedures necessary to manage and lead a contemporary dental practice.</li> </ul> <p><u>Patient Care Competencies in Comprehensive Assessment, Diagnosis, and Treatment Planning:</u></p> <ul style="list-style-type: none"> <li>• Perform comprehensive diagnostic evaluations and risk assessments based upon the application of scientific evidence with consultations as appropriate.</li> <li>• Assess patient goals, values and concerns to establish rapport, guide patient care, maintain oral health and monitor therapeutic outcomes.</li> <li>• Formulate multidisciplinary, comprehensive, sequenced treatment plans based on diagnosis, prognosis, and patient expectations, including discussion of risks, benefits and viable alternative</li> </ul>	<p><u>Demonstrate integrated knowledge of basic, preclinical and clinical dental sciences including:</u></p> <ul style="list-style-type: none"> <li>• Problem-solving skills</li> <li>• Technical skills utilizing appropriate tools</li> <li>• Independently accessing appropriate data and learning resources</li> <li>• Working effectively in group situations</li> <li>• Lifelong, self-motivated learning</li> <li>• Managing medical presentations of dental patients</li> <li>• Delivering skilled dental care</li> <li>• Effective communication skills and</li> <li>• Responding effectively to innovation and advances in dental science.</li> </ul>

	<p>treatment recommendations.</p> <ul style="list-style-type: none"> <li>• Recognize the normal range of clinical findings and significant deviations that indicate oral pathology and that require monitoring, treatment or management.</li> <li>• Recognize oral manifestations of systemic disorders, and systemic complications of oral disease, and seek consultations as needed.</li> </ul> <p><u>Patient Care Competencies in Comprehensive Treatment:</u></p> <ul style="list-style-type: none"> <li>• Provide patient education and preventive strategies to maximize his/her oral health and well-being.</li> <li>• Assess, diagnose and manage dental caries.</li> <li>• Assess, diagnose and manage periodontal disease.</li> <li>• Manage procedures that preserve and restore tooth structure to optimal form, function and esthetics.</li> <li>• Restore edentulous spaces to optimal form, function and esthetics.</li> <li>• Assess, diagnose and manage pulpal and periradicular disease.</li> <li>• Assess, diagnose and manage conditions requiring surgical intervention.</li> <li>• Assess, diagnose and manage chronic orofacial pain and dysfunction including temporomandibular joint disorders.</li> <li>• Assess, diagnose and manage occlusal and oral spatial abnormalities.</li> </ul> <p><u>Patient Care Competencies in Medical and Dental Emergencies, Pain and/or Anxiety Control:</u></p> <ul style="list-style-type: none"> <li>• Anticipate, detect and manage medical emergencies that may occur in the dental setting.</li> <li>• Assess, diagnose and manage pain, hemorrhage, trauma and infection of the orofacial complex.</li> <li>• Select and administer or prescribe appropriate pharmacological agents used in the treatment of dental patients while being cognizant of and</li> </ul>	
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	<p>managing the potential for patient drug abuse.</p> <ul style="list-style-type: none"><li>• Manage patients with pain and/or anxiety using appropriate non-pharmacological methods.</li></ul> <p><u>Patient Care Competency in Communication:</u></p> <ul style="list-style-type: none"><li>• Communicate and collaborate with dental team members and other health care professionals in the management of and health promotion for all patients.</li></ul>	
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Dental Hygiene (B.S.)	<ul style="list-style-type: none"> <li>• Assess the patient’s medical, dental, and social histories</li> <li>• Provide educational, clinical, and consultative services to individuals and populations of all ages, including the medically compromised, mentally or physically challenged, and socially or culturally disadvantaged.</li> <li>• Emphasize health promotion and disease prevention, as well as the dental hygienist’s role in the community.</li> <li>• Provide nutritional counseling and tobacco cessation strategies</li> <li>• Solve problems, interact with dentists, treat a wide variety of patients, perform preventive procedures, and evaluate patient outcomes</li> <li>• Through learner-centered activities, become future leaders who possess the critical tools needed for the advancement of self-directed, critical-thinking professionals.</li> <li>• Assess, perform dental hygiene diagnosis, plan, implement, problem-solve, make decisions and evaluate for a diverse range of patient/clients</li> <li>• Learn appropriate educational and scientific methodology in preparation for life-long learning</li> <li>• Develop intra- and inter-professional collaboration with other healthcare providers</li> <li>• Develop, implement and evaluate public oral health programs.</li> <li>• Assess, plan, implement and evaluate community based oral health programs in a variety of settings to promote health and disease prevention among diverse population groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess, plan, implement and evaluate patient care services for all patient populations.</li> <li>• Integrate foundational knowledge and clinical skills to deliver the highest standard of dental hygiene care to all populations and periodontal types using the dental hygiene process of care.</li> <li>• Apply ethical reasoning and professional responsibility in performing patient care services and interactions with other health professionals. Provide skilled care using the highest professional knowledge, judgment and ethical reasoning and decision-making following American Dental Hygiene Association Code of Ethics, based on knowledge of state and federal laws.</li> <li>• Utilize scientific research in problem-solving and critical decision-making in their professional activities. Utilize principles of research methodology in order to evaluate the scientific literature, synthesize the information in a critical and effective manner to apply evidence-based approaches to patient care.</li> <li>• Apply self-assessment skills to facilitate life-long learning. Evaluate and reflect on professional growth as a strategy for life-long learning.</li> </ul>

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Dental Hygiene M.S.	<ul style="list-style-type: none"> <li>• Program planning</li> <li>• Advanced research methodology</li> <li>• Statistical data management</li> <li>• Analysis and interpretation of quantitative and qualitative data to guide problem-solving and evidence-based decision-making</li> <li>• Specialize in Educational Methodology, Geriatric Dentistry or Pediatric Dentistry</li> </ul>	<ul style="list-style-type: none"> <li>• Advance the art and science of the discipline of dental hygiene</li> <li>• Develop alternative career paths in the fields of education, healthcare, research and public health</li> <li>• Function as effective and efficient members of academic and healthcare teams</li> <li>• Adapt to the transitions in the Dental Hygiene profession and the healthcare delivery system.</li> <li>• Integrate research findings to form strategies to decrease oral disease risk and promote oral health among individuals, families and communities.</li> </ul>