

COURSES: SCHOOL OF DENTAL MEDICINE

Comprehensive Care (COMP)

COMP 200. Directed Clinical Experience. .5 - 6 Units.

Directed clinical experience under faculty supervision and with special permission of the Associate Dean for Education.

COMP 300. Directed Clinical Studies. .5 - 8 Units.

Independent study during the period prior to daily clinic sessions, with emphasis on clinical didactic material and review of clinical procedures to support student's clinical learning and progress. Meeting with clinical preceptors to review progress, to be initiated by the student as needed.

COMP 310. Summer Clinic. .5 - 6 Units.

Attendance is mandatory in the summer dental clinic of the third year. Students become acquainted with all aspects of clinical practice and begin providing clinical care for patients.

COMP 341. Patient Care I. 2 Units.

This course provides each third year student with basic clinical education, training and experiences in the following disciplines of dentistry: Oral Diagnosis, Oral and Maxillofacial Surgery, Endodontics, Periodontics, Operative Dentistry, Fixed Prosthodontics, Removable Prosthodontics, Pediatrics, Orthodontics, Geriatrics, Hospital Dentistry. Each third year student is assigned to a preceptor group which is managed by two master clinician dentists. These preceptors provide their students with training in diagnosis, treatment planning, sequencing, and the actual treatment of their assigned patients. Students also consult with residents and faculty in dental specialties. The preceptors direct and coordinate the total dental health care of the patients of each of their students. Monthly seminars are provided by the preceptors of each group to discuss student cases, to review dental techniques and journal articles. Individual student meetings are scheduled to discuss clinical performance.

COMP 351. Patient Care II. 5 Units.

This course provides each third year student with basic clinical education, training and experiences in the following disciplines of dentistry: Oral Diagnosis, Oral and Maxillofacial Surgery, Endodontics, Periodontics, Operative Dentistry, Fixed Prosthodontics, Removable Prosthodontics, Pediatrics, Orthodontics, Geriatrics, Hospital Dentistry. Each third year student is assigned to a preceptor group which is managed by two master clinician dentists. These preceptors provide their students with training in diagnosis, treatment planning, sequencing, and the actual treatment of their assigned patients. Students also consult with residents and faculty in dental specialties. The preceptors direct and coordinate the total dental health care of the patients of each of their students. Monthly seminars are provided by the preceptors of each group to discuss student cases, to review dental techniques and journal articles. Individual student meetings are scheduled to discuss clinical performance.

COMP 358. Clinical Oral Surgery I. 1 Unit.

This clinical course introduces the student to patient management in clinical oral surgery, which includes infection control, patient evaluation, diagnosis, treatment planning, informed consent, local anesthetic procedures, and routine oral surgery procedures employed in a general dental practice.

COMP 361. Patient Care III. 5 Units.

This course provides each third year student with basic clinical education, training and experiences in the following disciplines of dentistry: Oral Diagnosis, Oral and Maxillofacial Surgery, Endodontics, Periodontics, Operative Dentistry, Fixed Prosthodontics, Removable Prosthodontics, Pediatrics, Orthodontics, Geriatrics, Hospital Dentistry. Each third year student is assigned to a preceptor group which is managed by two master clinician dentists. These preceptors provide their students with training in diagnosis, treatment planning, sequencing, and the actual treatment of their assigned patients. Students also consult with residents and faculty in dental specialties. The preceptors direct and coordinate the total dental health care of the patients of each of their students. Monthly seminars are provided by the preceptors of each group to discuss student cases, to review dental techniques and journal articles. Individual student meetings are scheduled to discuss clinical performance.

COMP 372. Patient Care Experience I. 2 Units.

Patient Care in the Department of Comprehensive Care involves a number of essential elements, that focus on the delivery of safe, effective, compassionate care to patients, as well as developing efficiency in the delivery of patient care and over time, accomplishing an increasing amount of clinical experiences and developing greater clinical productivity each day, week and month. These are the foundations of our DMD and Comprehensive Care clinical education program, to enable D3 and D4 student doctors the ability to develop clinical judgment and skills, focusing on the overall quality of patient care and patient experiences, achieving a level of clinical competency and improving efficiency and productivity of their daily patient care, so that CWRU SODM graduates are practice-ready at time of graduation. Those elements are clearly described in the new Comprehensive Care grading system rubrics that consist of: Ethics; Compassionate Care; Comprehensive Care; Health Promotion, Prevention and Maintenance; Procedure/Treatment; Dental Practice Management; and Critical Thinking. The focus and purpose of the Patient Care Experience I, II and III courses is on your clinical experiences and a quantitative assessment of your overall clinical experiences and clinical productivity each semester.

COMP 378. Pediatric Dentistry Clinic. 1.5 Unit.

This clinical experience in dental care for children and adolescents provides the predoctoral student with patient-parent contact and the opportunity to perform comprehensive pediatric dental care such as preventive dentistry, restorative dentistry, pulp therapy, primary teeth extractions and space maintenance with pharmacological and non-pharmacological behavior management methods, for the pediatric dental patient.

COMP 382. Patient Care Experience II. 5 Units.

Patient Care in the Department of Comprehensive Care involves a number of essential elements, that focus on the delivery of safe, effective, compassionate care to patients, as well as developing efficiency in the delivery of patient care and over time, accomplishing an increasing amount of clinical experiences and developing greater clinical productivity each day, week and month. These are the foundations of our DMD and Comprehensive Care clinical education program, to enable D3 and D4 student doctors the ability to develop clinical judgment and skills, focusing on the overall quality of patient care and patient experiences, achieving a level of clinical competency and improving efficiency and productivity of their daily patient care, so that CWRU SODM graduates are practice-ready at time of graduation. Those elements are clearly described in the new Comprehensive Care grading system rubrics that consist of: Ethics; Compassionate Care; Comprehensive Care; Health Promotion, Prevention and Maintenance; Procedure/Treatment; Dental Practice Management; and Critical Thinking. The focus and purpose of the Patient Care Experience I, II and III courses is on your clinical experiences and a quantitative assessment of your overall clinical experiences and clinical productivity each semester.

COMP 386. Quality Assurance I. 1 Unit.

This course introduces students to the regulatory, ethical, and compliance expectations held by the School and the authorities that govern the practice of dentistry. This course will provide foundational information, resources, policy, and guidelines to aid students' understanding of their responsibilities to safeguard their patient care in an ethical and competent manner. The course will cover five domains of clinical and didactic content: Documentation & HIPAA, Infection Prevention & Control, Adverse Events, Risk Management & Ethics, Regulatory Compliance, and Communication & Conflict Resolution.

COMP 392. Patient Care Experience III. 5 Units.

Patient Care in the Department of Comprehensive Care involves a number of essential elements, that focus on the delivery of safe, effective, compassionate care to patients, as well as developing efficiency in the delivery of patient care and over time, accomplishing an increasing amount of clinical experiences and developing greater clinical productivity each day, week and month. These are the foundations of our DMD and Comprehensive Care clinical education program, to enable D3 and D4 student doctors the ability to develop clinical judgment and skills, focusing on the overall quality of patient care and patient experiences, achieving a level of clinical competency and improving efficiency and productivity of their daily patient care, so that CWRU SODM graduates are practice-ready at time of graduation. Those elements are clearly described in the new Comprehensive Care grading system rubrics that consist of: Ethics; Compassionate Care; Comprehensive Care; Health Promotion, Prevention and Maintenance; Procedure/Treatment; Dental Practice Management; and Critical Thinking. The focus and purpose of the Patient Care Experience I, II and III courses is on your clinical experiences and a quantitative assessment of your overall clinical experiences and clinical productivity each semester.

COMP 417. Community Oral Health Capstone Experience. 1.5 Unit.

The course exposes students to a healthcare facility different from the dental school clinic with a different patient population and work force.

COMP 422. Clinical Periodontics. 1.5 Unit.

Lecture and clinic together in this course enable the student to further apply the knowledge and skills learned in prior periodontal courses while incorporating the impact of systemic conditions and multidisciplinary interactions on periodontic endpoints. It focuses on how selective periodontal treatment can be integrated into a treatment plan considering the parameters presented by a special situation and introduces students to case specific consideration. Some examples are treatment related to specific medical problems, pharmacologic interactions, endodontics, prosthodontics, geriatrics, esthetics, orthodontics and implantology.

COMP 427. Oral Diagnosis and Treatment Planning. 1 Unit.

Diagnosis and treatment planning based on the correlation of the fundamentals taught in oral diagnosis, oral radiology, physical evaluation, preventive dentistry, and restorative dentistry. Clinical experience in the application of didactic training consists of the following components: 1. assignment in the admitting and radiology clinic where students carry out examinations of newly admitted patients and evaluate their problems and needs; 2. radiology, oral medicine, and medicine interpretation findings by the students is discussed with a faculty member.

COMP 428. Oral Diagnosis and Radiology. .5 Unit.

The primary goals of this course are to enable the student to become competent in the collection and interpretation of clinical data, enable the student to become competent in determining the differential and/or definitive diagnosis of oral disease based upon the interpretation of the clinical/laboratory data acquired and enable the student to interact with other health care providers in the medical risk assessment of patients admitted to the School of Dental Medicine.

COMP 430. Comprehensive Care Clinical Competencies. 7 Units.

Dental education is competency-based, meaning, dental students must develop competency in the acquisition of knowledge, skills, and behaviors that are meaningful and necessary for the contemporary practice of general dentistry, and dental students must demonstrate competency in their didactic, pre-clinical and clinical performance in courses, simulation, and clinical patient care. The Department of Comprehensive Care and School of Dental Medicine have 12 patient-based clinical competencies that all D3 and D4 student doctors must complete and pass on their own and without assistance, as the Comprehensive Care clinical competencies are graduation requirements. Once students reach a specific number of clinical experiences in several comprehensive care procedures they then undertake high stakes assessment of competency in specific procedures when the student is considered ready by their faculty supervisors and have completed a minimum number of experiences. Successful completion and passing of clinical qualifying exams are also required prior to challenging some competencies. The amount of clinical experiences and rubrics for the competency exams have been determined by the Department of Comprehensive Care and department calibration efforts, and are incorporated into the Axiom electronic health record daily grading system.

COMP 441. Patient Care IV. 2 Units.

This course provides fourth year students with basic clinical education, training and experiences in the following disciplines of dentistry: Oral Diagnosis, Oral and Maxillofacial Surgery, Endodontics, Periodontics, Operative Dentistry, Fixed Prosthodontics, Removable Prosthodontics, Pediatrics, Orthodontics, Geriatrics, Hospital Dentistry. Each fourth year student is assigned to a preceptor group which is managed by two master clinician dentists. These preceptors provide their students with training in diagnosis, treatment planning, sequencing, and the actual treatment of their assigned patients. Students also consult with residents and faculty in dental specialties. The preceptors direct and coordinate the total dental health care of the patients of each of their students. Monthly seminars are provided by the preceptors of each group to discuss student cases, to review dental techniques and journal articles. Individual student meetings are scheduled to discuss clinical performance.

COMP 448. Endodontics. 2 Units.

The clinical curriculum provides the major endodontic treatment information for this program. Specific subjects covered are diagnosis, pulp and periapical pathosis, radiology, pharmacology, anesthesia, pain management, emergency treatment, pulp treatment, trauma, mechanical innovations, apexification, bleaching, endodontic-periodontic complexities, preparation of endodontically treated teeth, and endodontic surgery. The above information is designed to provide the student with a basic understanding of the field of endodontics.

COMP 451. Patient Care V. 5 Units.

This course provides fourth year students with basic clinical education, training and experiences in the following disciplines of dentistry: Oral Diagnosis, Oral and Maxillofacial Surgery, Endodontics, Periodontics, Operative Dentistry, Fixed Prosthodontics, Removable Prosthodontics, Pediatrics, Orthodontics, Geriatrics, Hospital Dentistry. Each fourth year student is assigned to a preceptor group which is managed by two master clinician dentists. These preceptors provide their students with training in diagnosis, treatment planning, sequencing, and the actual treatment of their assigned patients. Students also consult with residents and faculty in dental specialties. The preceptors direct and coordinate the total dental health care of the patients of each of their students. Monthly seminars are provided by the preceptors of each group to discuss student cases, to review dental techniques and journal articles. Individual student meetings are scheduled to discuss clinical performance.

COMP 458. Clinical Oral Surgery II. 1 Unit.

This clinical course involves the hands on application of oral surgery principles including evaluation of the patient's medical status, clinical examination, local anesthesia delivery, extractions, pre-prosthetic procedures, patient management, and infection control.

COMP 461. Patient Care VI. 5 Units.

This course provides fourth year students with basic clinical education, training and experiences in the following disciplines of dentistry: Oral Diagnosis, Oral and Maxillofacial Surgery, Endodontics, Periodontics, Operative Dentistry, Fixed Prosthodontics, Removable Prosthodontics, Pediatrics, Orthodontics, Geriatrics, Hospital Dentistry. Each fourth year student is assigned to a preceptor group which is managed by two master clinician dentists. These preceptors provide their students with training in diagnosis, treatment planning, sequencing, and the actual treatment of their assigned patients. Students also consult with residents and faculty in dental specialties. The preceptors direct and coordinate the total dental health care of the patients of each of their students. Monthly seminars are provided by the preceptors of each group to discuss student cases, to review dental techniques and journal articles. Individual student meetings are scheduled to discuss clinical performance.

COMP 476. Patient Care Experience IV. 2 Units.

Patient Care in the Department of Comprehensive Care involves a number of essential elements that focus on the delivery of safe, effective, compassionate care to patients, as well as developing efficiency in the delivery of patient care and over time, accomplishing an increasing amount of clinical experiences and developing greater clinical productivity each day, week and month. These are the foundations of our DMD and Comprehensive Care clinical education program, to enable D3 and D4 student doctors the ability to develop clinical judgment and skills, focusing on the overall quality of patient care and patient experiences, achieving a level of clinical competency and improving efficiency and productivity of their daily patient care, so that CWRU SODM graduates are practice-ready at time of graduation. Those elements are clearly described in the new Comprehensive Care grading system rubrics that consist of: Ethics; Compassionate Care; Comprehensive Care; Health Promotion, Prevention and Maintenance; Procedure/Treatment; Dental Practice Management; and Critical Thinking. The focus and purpose of the Patient Care Experience IV, V and VI courses is on your clinical experiences and a quantitative assessment of your overall clinical experiences and clinical productivity each semester.

COMP 478. Pediatric Dentistry. 1.5 Unit.

This clinical experience in dental care for children and adolescents provides the predoctoral student with patient-parent contact and the opportunity to perform comprehensive pediatric dental care such as preventive dentistry, restorative dentistry, pulp therapy, primary teeth extractions and space maintenance with non-pharmacological behavior management methods, for the pediatric dental patient.

COMP 480. Clinical Geriatric Dentistry. .5 Unit.

The course exposes students to providing comprehensive care to a broad range of older adults in a variety of settings. Senior students will attend interdisciplinary team meetings to present dental findings, recommendations and to gain exposure to the impact of physiological aging, systemic conditions, functional disabilities, and pharmacological interactions on delivering comprehensive care to this vulnerable population.

COMP 482. Clinical Orthodontics. 1 Unit.

Clinical orthodontics provides the student with the opportunity to apply the knowledge that he/she has obtained in facial growth, dentofacial morphology, sophomore orthodontics, and senior orthodontics to assist in and sometimes treat comprehensive, preventive, interceptive and limited corrective tooth movement patients.

COMP 486. Patient Care Experience V. 5 Units.

Patient Care in the Department of Comprehensive Care involves a number of essential elements that focus on the delivery of safe, effective, compassionate care to patients, as well as developing efficiency in the delivery of patient care and over time, accomplishing an increasing amount of clinical experiences and developing greater clinical productivity each day, week and month. These are the foundations of our DMD and Comprehensive Care clinical education program, to enable D3 and D4 student doctors the ability to develop clinical judgment and skills, focusing on the overall quality of patient care and patient experiences, achieving a level of clinical competency and improving efficiency and productivity of their daily patient care, so that CWRU SODM graduates are practice-ready at time of graduation. Those elements are clearly described in the new Comprehensive Care grading system rubrics that consist of: Ethics; Compassionate Care; Comprehensive Care; Health Promotion, Prevention and Maintenance; Procedure/Treatment; Dental Practice Management; and Critical Thinking. The focus and purpose of the Patient Care Experience IV, V and VI courses is on your clinical experiences and a quantitative assessment of your overall clinical experiences and clinical productivity each semester.

COMP 495. Directed Clinical Studies. .5 - 8 Units.

This course is intended to provide students with the opportunity to advance their dental clinical patient skills in the comprehensive care clinics of the School while also providing advanced opportunity for students who are so inclined to focus in individual areas of clinical skills development.

COMP 496. Patient Care Experience VI. 5 Units.

Patient Care in the Department of Comprehensive Care involves a number of essential elements that focus on the delivery of safe, effective, compassionate care to patients, as well as developing efficiency in the delivery of patient care and over time, accomplishing an increasing amount of clinical experiences and developing greater clinical productivity each day, week and month. These are the foundations of our DMD and Comprehensive Care clinical education program, to enable D3 and D4 student doctors the ability to develop clinical judgment and skills, focusing on the overall quality of patient care and patient experiences, achieving a level of clinical competency and improving efficiency and productivity of their daily patient care, so that CWRU SODM graduates are practice-ready at time of graduation. Those elements are clearly described in the new Comprehensive Care grading system rubrics that consist of: Ethics; Compassionate Care; Comprehensive Care; Health Promotion, Prevention and Maintenance; Procedure/Treatment; Dental Practice Management; and Critical Thinking. The focus and purpose of the Patient Care Experience IV, V and VI courses is on your clinical experiences and a quantitative assessment of your overall clinical experiences and clinical productivity each semester.

COMP 498. Quality Assurance II. 1 Unit.

This course will provide information, resources, policy, and guidelines to aid dental students' understanding of their responsibilities to safeguard their patient care in an ethical and competent manner. It will cover clinical and didactic content and assessment of four main areas: Documentation, Infection Prevention & Control, Ethical Decision-making, Risk Management, & Compliance, and Adverse Event Decision-making (How do we prevent, recognize, and manage treatment deficiencies?).

Dentistry (DENT)

DENT 501. Biological Aspects of the Stomatological System. 0 - 2 Units.

This course is a review of biochemistry, molecular and cellular biology, histology, and oral anatomy and an expansion of oral biological topics that underlie the disciplines of endodontics, orthodontics, periodontics, and pediatric dentistry.

DENT 502. Correlative Medical Science. 0 - 2 Units.

Case-based discussion of selected systemic disease commonly encountered by the dentist.

DENT 503. Facial Growth and Development. 0 - 1 Units.

Emphasis on the qualitative, quantitative, and integrative changes during postnatal craniofacial growth and development.

DENT 504. Advanced Facial Growth. 1 Unit.

Student participation in seminar evaluation series dealing with problems and controversies apparent in the literature in regard to theories of growth, development, and aging. Emphasis on the craniofacial literature, but not exclusively.

DENT 505. Dentofacial Anomalies. 0 - 1 Units.

This course is designed to provide the student with the practical experience regarding the multidisciplinary aspects of diagnosis and treatment of patients with craniofacial anomalies. Observation of team sessions and active participation in patient examinations, diagnosis, and treatment planning.

DENT 507. Dental Ethics for the Graduate. 0 - 1 Units.

This 8 week course is given in group discussion format. Topics of ethical dilemmas, informed consent, professional (both national and local) codes of ethics, IRB introduction, patient autonomy, contractual obligations and purrery are discussed using case scenarios and student presentations.

DENT 509. Temporomandibular Disorders, Orofacial Pain and Sleep Disorders. 0 - 3 Units.

This course will enable first year dental residents to learn the principles of pain mechanisms, types of OFP and Sleep Disorders, differential diagnosis and management of these conditions in adults and children. By the end of this course the residents should be able to identify the most common types of OFP and sleep disorders, be able to make the differential diagnosis, and manage simple OFP case and / or refer the most complex OFP cases. Recommended preparation: DMD, DDS or equivalent degree.

DENT 510. Epidemiology and Biostatistics. 0 - 3 Units.

A detailed presentation of epidemiological and biostatistical techniques designed to acquaint the student with a broad spectrum of scientific approaches and to prepare for a research project. Topics include design of observational and experimental studies, common biostatistical techniques encountered in the dental literature such as t-test, ANOVA, chi-square, correlation and regression, and assessing the validity of diagnostic tests. Instruction includes lectures, critique of selected literature and computer analysis of data.

DENT 511. Biostatistics. 0 - 3 Units.

Biostatistics topics include: types of data, probability concepts and distribution, sampling, hypothesis testing, correlation and regression.

DENT 512. Advanced Oral Pathology. 0 - 3 Units.

Lectures and seminars on the clinical and histopathologic characteristics of many of the common oral diseases. Special emphasis on developing a logical approach to clinical and histopathologic diagnosis. Participation is expected for in-class discussion of the clinical and histopathologic material presented.

DENT 513. Anatomy of the Head and Neck. 0 - 3 Units.

This course deals with the structural, functional, and clinical relationships of the many organs and organ systems which comprise the head, neck, and pharyngeal regions of the human body.

DENT 514. Research Methods: Preparation. 0 - 1 Units.

The goal of this course is to facilitate a formal statement of the student's research idea as preparation for working with a thesis committee or undertaking independent research.

DENT 516. Microbiology, Immunology, and Immune Systems. 0 - 3 Units.

This course reviews bacterial structure and classification, provides insight into oral bacterial pathogenesis. Principles of antibiotic use and mechanisms of resistance are reviewed. Microbial diagnostic methodologies are discussed. Integration of periodontics, endodontics, and pediatric dentistry is stressed as it relates to the inflammatory process in the human host.

DENT 518. Behavioral Considerations in Oral Health Care. 0 - 1 Units.

This course focuses on the behavioral knowledge and skills the oral health practitioner must possess in order to deliver effective, patient-centered care. Specifically, the course is designed to enhance graduate students' existing knowledge and skills in relation to dentist-patient communication, management of diverse patient populations, and patient education and facilitation of health behavior change.

DENT 520. Skeletal Anchorage. .5 Unit.

This course provides 1st year orthodontic residents with the theoretical knowledge and practical skills necessary to successfully treat orthodontic patients in need of absolute anchorage with orthodontic mini-implants. In addition, the most current articles in the orthodontic literature pertaining to this topic are read and discussed. The theory will be supplemented by practical exercises as necessary.

DENT 521. Manot Cave Dig, Israel. 0 - 1 Units.

This project is an ongoing collaboration between the CWRU School of Dental Medicine and Tel Aviv University. The newly discovered excavations have produced thousands of butchered deer bones, hundreds of stone tools, an one partial human skull. Traditionally CWRU faculty and students will be going in July to continue their work. Interested students are given the opportunity to learn basic archeological techniques while working in a newly discovered cave in Northern Israel. The Manot cave was discovered in 2008 and after 6 field seasons has yielded thousands of artifacts shedding light on what life was like for our early ancestors. Each participant will rotate through several stations including wet and dry sieving, excavation, and how to pick through the processed remains. They will learn how to identify stone and bone tools, faunal and floral remains. In addition to the hands-on experience they also get to attend field lectures by some of the world's most famous researchers in human prehistory. Lodging is in comfortable cabins within easy walking distance from the cave site. This two-week field and lab experience is not only educational but also presents the opportunity to travel around the beautiful country of Israel.

DENT 550. Clinical Pharmacology. 0 - 1 Units.

This course is designed to enable residents to obtain an understanding of the pharmacology of the most commonly prescribed medications; pharmacotherapeutic concepts in relationship to disease pathophysiology; rational drug therapy in the treatment of disease; drug-drug interactions and drug-disease interactions; adverse drug events. Residents will be expected to apply information on disease pathophysiology and pharmacotherapy to clinical cases. The ultimate goal is to provide relevant information to assist clinicians in practice.

DENT 555. Management of Medical Emergencies. 0 - 1 Units.

This course covers the diagnosis and management of common medical emergencies, with special emphasis on patient evaluation and history taking to prevent such emergencies in the dental office. Venipuncture technique and the use of emergency equipment are demonstrated. Also included is a basic course in cardiopulmonary resuscitation, with practical demonstrations and examinations that lead to certification in basic CPR.

DENT 561. Orthodontics for Pediatric Dentists I. 0 - 3 Units.

The course is designed to familiarize the pediatric dentistry residents with (1) the clinical evaluation of patients to determine appropriateness of orthodontic intervention, (2) record taking, (3) diagnosis, (4) treatment planning of cases in the mixed and permanent dentition, (5) treatment administration and (6) retention strategies. The primary focus will be on interceptive orthodontics including growth modification and corrective orthodontics in the permanent dentition. First in a series of four courses.

DENT 564. Advanced Principles of Occlusion. 1 Unit.

This course is designed to provide in-depth knowledge of the structure and function of all anatomic components involved in occlusion, biomechanics of articulation and mastication; recording of mastication patterns; diagnosis of occlusal dysfunction; relationship to neuromuscular and temporomandibular joint anatomy and pathology; evidence based therapy used in the management of occlusal and temporomandibular disorders and its significance to inflammatory periodontal disease.

DENT 565. Practice Management I (Ortho). 0 - 1 Units.

Seminar and demonstration course designed to prepare the student for all phases of the "business" of orthodontics as well as the responsibility of being a "professional." Management of the department clinic, private practice management, office visitations, and the business community, and ethics through the use of guest speakers on jurisprudence, personal and professional insurance, accounting, estate planning, risk management, informed consent, banking, office design, organized dentistry and investments. First in a series of four courses.

DENT 569. Orthodontic Literature Review I. 1 Unit.

The course will focus on contemporary and classic literature selected to cover a wide range of orthodontic topics. The selected literature includes the reading list suggested by the American Board of Orthodontics in preparation for the Part II of the ABO examination. Students will be required to discuss the articles and answer questions pertaining to the reviewed material.

DENT 572. Pre-Clinical Principles in Orthodontics. 0 - 1 Units.

This course is comprised of a series of seminars presented by orthodontic faculty covering topics that will prepare the first orthodontic resident for the initial phases of clinical training.

DENT 573. Advanced Specialty Principles: Clinical I. 2 Units.

Full fixed orthodontic appliance treatment of patients in an educational setting. First in a series of four courses.

DENT 580. Orthodontics-Oral Surgery Conference. 0 - 1 Units.

A seminar series involving a multidisciplinary approach to the treatment of patients with severe craniofacial deformities. Begins in the fall of each year (continuing for four semesters) with a series of lectures, followed by assignment of patients supervised jointly by the departments of orthodontics and oral surgery. Meetings held bimonthly to review patient progress, plan treatment, and present cases for discussion. Each student involved in all phases of treatment: presurgical orthodontics, the surgical procedure, finishing orthodontics, and retention.

DENT 583. Orthodontic Diagnostic Seminar I. 1 Unit.

Series of lectures and seminars covering the science of orthodontic diagnosis. Course consists of lectures on techniques of diagnosis, treatment planning, and critique of cases from the department or from faculty private practices. Content also includes long-term follow-up of post retention cases. First in a series of three courses.

DENT 585. Orthodontic Diagnostic Seminar III. 1 Unit.

Third in a series of three courses. (See DENT 583.)

DENT 586. Limited Tooth Movement for the Dental Specialist. 0 - 1 Units.

A review of the rationale for orthodontic treatment in periodontally diseased patients and in pre-restorative dentitions. Lectures, audio-visual programs, and technique sessions. Diagnosis, treatment planning, and various methods of tooth movement.

DENT 587. Periodontal Prosthesis. 1 Unit.

This course examines and defines the periodontal prosthetic interrelationships beginning with treatment planning and continuing with discussing the utilization of the combined treatment modalities. It focuses on provisionalization, furcation treatment, occlusion, aesthetics, removable appliances, and special advanced treatment problems.

DENT 651. Thesis M.S.D.. 1 - 9 Units.

Subsections for each program area of study: endodontics, orthodontics, periodontics, or pediatric dentistry.

DENT 661. Conscious IV Sedation I. 2 Units.

Didactic portion covers physical evaluation, physiology, pharmacology, emergencies, and techniques. Cardiac monitoring, basic life support, and advanced cardiac life support.

DENT 662. Conscious IV Sedation II. 0 - 6 Units.

(See DENT 661.) Supervised clinical experience in conscious IV sedation.

DENT 663. Implant Dentistry I Periodontics. 0 - 1 Units.

Designed to enhance the understanding of current concepts and their role in the multidisciplinary treatment of the patient.

DENT 664. Implant Dentistry II Periodontics. 0 - 6 Units.

(See DENT 663.) Clinical demonstration, participation, and case presentation in implant dentistry.

DENT 682. Cephalometrics. 0 - 1 Units.

A lecture and laboratory course in cephalometric roentgenography leading to a thorough understanding of craniofacial radiographic techniques. Use of x-rays and radiation hygiene, and technical and interpretive proficiency.

DENT 683. Imaging and IT. 1 Unit.

This course is designed to give some basic computer knowledge and prepare the resident for the use of computers in the orthodontic office.

DENT 684. Radiology and Cephalometrics. 1 Unit.

Fundamentally related to cephalometric radiography, skeletal morphology, and cephalogram interpretations of historic analyses via the Krogman-Sassouni Syllabus. Also, clinical evaluations of hard and soft tissue relationships of the airway and skeletal maturation are presented. The use of Bolton Standards in craniofacial analysis is stressed.

DENT 693. Fellowship of Advanced Clinical Education - Advanced Dental Studies. 1 - 9 Units.

Fellowship of Advanced Clinical Education (or F.A.C.E.) - Advanced Dental Studies is a special course per agreement in collaboration with Qassim University in Saudi Arabia.

DENT 696. Advanced Dental Training. 0 - 6 Units.

This course is a one year advanced training in dental medicine at Case Western Reserve University School of Dental Medicine. Responsibilities may include clinical and didactic responsibilities. The course is designed to give students clinical experience in a defined focus area.

DENT 697. Advanced Dental Training II. 1 Unit.

Continuation of Advanced Dental Training I. Prereq: D.D.S. or equivalent.

DENT 698. Multidisciplinary Seminar. 0 - .5 Units.

This seminar meets monthly to discuss multidisciplinary cases to develop treatment recommendations for the patients presented. Each graduate department selects a clinical case that requires the services of at least three dental specialties. Ideally, patients should be in the beginning stage of treatment planning so the input from the various specialties can be used to develop a comprehensive plan to establish a healthy oral environment. It is expected that several alternative treatments will be discussed and the relative merits of each approach evaluated. To maximize the benefit of this seminar to the student learning process, an attending faculty member should be present from each of the dental specialty programs. In addition, all seminars have a Prosthodontist to provide input on the restorative treatment options.

DENT 699. AEGD Residency Training. 1 - 8 Units.

This is a multidisciplinary course that encompasses didactic and clinical training in general dentistry.

Endodontics (DNDO)

DNDO 529. Endodontology. 3 Units.

Scientific rationale for endodontic practice. Endodontic anatomy, physiology, pathology, and microbiology. All treatments and techniques studied and substantiated by current and classical research.

DNDO 539. Endodontic Literature Review. 3 Units.

Provides scientific basis for present and future treatment. Instructs students in critically evaluating literature. Provides format for lifelong self-education. Specific journal assignments summarized, evaluated, and presented for group discussion weekly.

DNDO 551. Clinical Endodontic Specialty. 3 Units.

Students present case histories as they encounter them in clinic. Cases discussed in detail and critically evaluated by colleagues and graduate endodontic faculty. Past endodontic literature discussed in detail as each student presents a topic assigned by faculty. Problems in clinic discussed. Several guest endodontists present various techniques and perform them.

DNDO 651. Sedation in Endodontic Practice. 1 - 3 Units.

5 modules designed to provide in-depth knowledge of minimal and moderate sedation to graduate endodontic students with the goal of becoming proficient in providing safe and effective minimal or moderate sedation to patients undergoing endodontic therapies. Recommended preparation: Current American Heart Association certification in BLS or Red Cross certification in Professional rescuer CPR.

Oral Medicine (DORL)

DORL 529. Oral Diagnosis / Med Seminar. 1 Unit.

Principles of diagnosis of oral mucosal disorders, clinical pathology and systemic pathology will be discussed in an interactive, case based format.

DORL 531. Clinical Oral Diagnosis and Oral Medicine. 1 Unit.

Clinical rotation in oral medicine and orofacial pain service.

DORL 532. Medical Specialty Services. 1 - 3 Units.

This course provides exposure to the graduate student to medical primary and specialty services and applications to the practice of oral medicine.

DORL 533. Supervised Teaching Radiology. 0 - 3 Units.

Active supervision of first year students during pre clinical and didactic instruction in dental radiography. Instruct and guide DMD students accurately exposing, processing and evaluating patient complete mouth radiographic surveys in clinical and demonstrate basic acquisition and interpretation of CBCT scans

DORL 534. Panoramic Imaging. 0 - 3 Units.

Knowledge regarding principles of panoramic radiology and image formation, details of rotation center, image layer formation, image layer thickness, magnification, sharpness and sensor design movement and speed. Anatomic landmarks key landmarks used for troubleshooting errors, description of correct projection of anatomic landmarks on a properly exposed panoramic film and relative positioning of anatomic structures is also covered.

DORL 541. Clinical Oral and Maxillofacial Radiology. 1 Unit.

Learn the principles of CBCT, MRI, and other advanced imaging Assist in oral and maxillofacial reading service Recognize radiologic appearance of abnormal findings in the maxillofacial complex

DORL 542. Advanced Oral Radiology. 1 Unit.

Seminar format review of advanced imaging techniques and interpretation on a one to one basis with faculty.

DORL 554. Current Concepts in Medicine. 1 Unit.

Students will review contemporary internal medicine topics of relevance to the oral medicine clinician.

Pediatric Dentistry (DPED)

DPED 533. Pediatric Dentistry Literature Review. 0 - 2 Units.

Review of the literature in preparation for the specialty board examination in pediatric dentistry. Includes articles on various topics including growth and development, special needs patients, oral pathology and oral medicine, and clinical and hospital practice.

DPED 535. Fundamentals in Pediatric Dentistry. 0 - 3 Units.

Students present selected chapters from major pediatric dentistry review books for critique and discussion. Major strengths and weaknesses are emphasized. The course director then presents the most current information on the subject.

DPED 537. Advanced Clinical Pediatric Dentistry. 0 - 3 Units.

Students develop skills in diagnosis, radiographic technique, treatment planning, preventive and restorative dentistry, space management, trauma management, and nonpharmacologic behavior management. There is an opportunity to attend hospital grand rounds and physician conferences.

DPED 639. Advanced Seminar in Pediatric Dentistry. 0 - 3 Units.

Students present patient cases for in-depth discussion of specific clinical problems.

DPED 690. Pediatric Dental Residency. 0 - 10 Units.

Allows registration for non-degree-seeking students in graduate level courses at the direction of the department.

Periodontics (DPER)

DPER 519. Introduction to Advanced Periodontics. 0 - 1 Units.

Introduction to the Graduate Periodontology Program. Introduce first year residents to the Graduate Periodontal Clinic and Program. the course consists of a series of seminars to discuss a variety of topics regarding patient care in the Graduate Periodontics clinic.

DPER 557. Treatment Planning Seminar. 0 - 3 Units.

Presentation of treated patients with advanced periodontal disease. Discussion of the clinical findings, etiology, diagnosis, and treatment plan. Critical review of the different surgical procedures used in therapy and evaluation of postoperative results. First in a series of four courses.

DPER 577. Clinical Periodontics. 0 - 6 Units.

Clinical practice of periodontics supplemented by case evaluation and treatment planning. A comprehensive study of normal and diseased periodontal tissues including etiology and diagnosis. Current modes of therapy-rationale technique, and prognosis. First in a series of four courses.

DPER 595. Periodontic and Implant Surgery Seminar. 0 - 3 Units.

Series of seminars covering clinical, histological, and physiological aspects of the periodontium in health and disease, etiology, diagnosis, prognosis, prevention, and treatment of periodontal disease, as well as the relationship of periodontics to other phases of dentistry.

DPER 665. Current Implant Literature Review. 0 - 1 Units.

This course will consist of presentation/ discussion of pertinent topics related to the practice of implantology. Discussion of most relevant articles of each topic.

DPER 666. Implant Literature Review 2. 1 Unit.

This course will consist of presentation/ discussion of pertinent topics related to practice of implantology and the most relevant articles of each topic.

DPER 667. Current Periodontic Literature Review. 0 - 3 Units.

This course will consist of presentation/ discussion of pertinent topics related to practice of implantology and relevant articles on each topic.

DPER 668. Core Classic Literature Review. 0 - 3 Units.

This course will allow incoming residents to gain knowledge of classic periodontal literature as it relates to etiology, pathogenesis and clinical practice. It will include both clinical and basic sciences topics related to periodontics.

DPER 685. Classic Periodontal Literature Review. 0 - 3 Units.

Comprehensive discussion of selected articles related to clinical periodontology and basic sciences of significance to periodontal research and therapy.

Dental Public Health (DPHC)

DPHC 501. Principles of Oral Epidemiology and Research Methods. 2 Units.

This course will address the distribution and determinants of oral and dental diseases at the local, state, national and international levels. Students will be instructed on the application of various dental indexes. Survey research methodology including questionnaire, development, and different forms of validity are also some of the topics taught. The course will enable residents to identify and formulate a research question that will be developed into a research proposal, to fulfill their residency requirement.

DPHC 505. Communication Methods in Dental Public Health. 2 Units.

This course will prepare students to be adept in searching scientific literature and gain/augment their skills in communicating as public health professionals. This skill set includes preparing literature reviews, manuscripts, developing research proposal and for this purpose students will gain proficiency in relevant software such as Reference Manager/EndNote/Adobe Connect. Students will be familiar with the different elements of a research proposal and gain skills in writing these components

DPHC 507. Data Analysis and Reporting. 2 Units.

Data Analysis and report writing will prepare residents to be proficient in analyzing public health/epidemiological by instructing them on the appropriate use of univariate, bivariate, and multivariate statistical test. Students will use either primary or secondary data sets for such applications. Bases on their previously approved research proposal and the results of the data analysis residents will write a scientific report to fulfill one of the requirements of the residency program.

DPHC 508. Dental Public Health Administration. 2 Units.

This course describes the history of dental public health, its principles, and the discipline as a recognized dental specialty. Understanding the discipline/profession and administration at local, state, national, and international levels will enable the graduates to be effective public health administrators.

DPHC 530. Graduate Preventive Dentistry. 2 Units.

This course will address primary, secondary, and tertiary prevention methods to prevent oral and dental diseases with the particular focus on groups of people rather than individual patients. Instruction on cost-effectiveness of different preventive modalities will enable students to choose the applicable program for specific populations.

DPHC 532. Oral Health Care Systems. 2 Units.

The course on oral health care systems will provide an insight into the dental care systems in the U.S. including different forms of financing, private, public, etc. Knowledge of the system will enable future dental public health professionals to recognize the oral health workforce models and their appropriateness to public health settings to provide dental care to various groups.

DPHC 551. Research in Dental Public Health I. 1.5 Unit.

One of the core aspects of dental public health training at CWRU is to augment residents' research skills; each resident will be required to develop, implement, and complete at least one research project during the training. The project may involve primary data collection or the use of secondary data for analysis. The program director, members of the residency committee, and experts working in the area of each resident's interest will assist with the selection of an appropriate research topic and getting IRB approval. Following the data analysis, each resident will submit and defend a written report of the project. Acquisition of research skills will be facilitated by didactic courses and periodical meetings with the residency director and members of the residency committee.

DPHC 552. Research in Dental Public Health II. 1.5 Unit.

One of the core aspects of dental public health training at CWRU is to augment residents' research skills; each resident will be required to develop, implement, and complete at least one research project during the training. The project may involve primary data collection or the use of secondary data for analysis. The program director, members of the residency committee, and experts working in the area of each resident's interest will assist with the selection of an appropriate research topic and getting IRB approval. Following the data analysis, each resident will submit and defend a written report of the project. Acquisition of research skills will be facilitated by didactic courses and periodical meetings with the residency director and members of the residency committee.

DPHC 555. Dental Public Health Practicum I. 1.5 Unit.

Supervised field experience is an integral part of the advanced education program in dental public health at CWRU; the numerous field experiences are designed to augment residents' requisite public health skills as well as community-oriented primary care. The sites for field experience include Medina County Health Department, Akron Health Resources Inc., Free Medical Clinic of Greater Cleveland, etc. These sites have been carefully chosen for DPH residents to improve public health skills, which would enable them to succeed as a dental public health professional.

DPHC 556. Dental Public Health Practicum II. 1.5 Unit.

Supervised field experience is an integral part of the advanced education program in dental public health at CWRU; the numerous field experiences are designed to augment residents' requisite public health skills as well as community-oriented primary care. The sites for field experience include Medina County Health Department, Akron Health Resources Inc., Free Medical Clinic of Greater Cleveland, etc. These sites have been carefully chosen for DPH residents to improve public health skills, which would enable them to succeed as a dental public health professional.

DPHC 599. Independent Study in Dental Public Health. 1 - 9 Units.

The aim of this course is for dental public health residents to gain an in-depth understanding of selected topics in public health and/or augment their skills in epidemiological research methodology. Students will choose their topic(s) of interest in consultation with the course director and attain the requisite skill levels through assigned readings and written assignments. Students opting to augmenting their research skills will be required to complete a research project by developing and implementing the project followed by data analysis and writing a report.

Orthodontics (DRTH)

DRTH 510. Humans: An Evolutionary Biology. 0 - 2 Units.**DRTH 523. Clinical Specialty Seminar. 2 Units.**

This course is a companion to clinical training in orthodontics and involves faculty and student evaluation of past and present literature. Sessions are used to evaluate current timely literature, and lectures and seminars complement the clinical experiences with topics including patient management, treatment of various aged populations and malocclusions, orthopedic appliances, treatment of patients with special needs, and various aspects of fixed and removable mechanotherapy.

Disease & Restoration of Health (DSRE)

DSRE 335. Clinical Pharmacology. 1.5 Unit.

This course is designed to review general principles of pharmacology, provide evidence-based information on the therapeutic application of agents prescribed by oral healthcare providers and discuss the rationale for and clinical implications of other therapeutic agents prescribed to patients by other healthcare providers. Emphasis is placed on critical thinking in discussing the reciprocal influences of drug, patient, and procedure-related variable.

DSRE 370. Principles of Oral and Maxillofacial Surgery II. 1 Unit.

This course is structured to help the student acquire a basic understanding of the advanced aspects of the specialty of oral and maxillofacial surgery and includes the process of diagnosis, surgical and adjunctive management of diseases, deformities and malformations of the oral cavity, jaws and associated structures.

DSRE 374. Fixed Prosthodontics. 1 Unit.

The didactic portion of the course describes further development of principles and clinical applications introduced in REHE 259/260, Basic Procedures in Fixed Prosthodontics, with emphasis on diagnosis, treatment planning, clinical and laboratory procedures in fixed prosthodontics. Discussion and comprehensive overview of fundamentals and advanced methods of restoring function and esthetics for partially edentulous patients with fixed prostheses.

DSRE 391. Endodontics. 1 Unit.

The didactic curriculum provides the major endodontic treatment information for this program. Specific subjects covered are diagnosis, pulp and periapical pathosis, radiology, pharmacology, anesthesia, pain management, emergency treatment, pulp treatment, trauma, mechanical innovations, apexification, bleaching, endodontic-periodontal complexities, preparation of endodontically treated teeth, and endodontic surgery, tooth-difficulty assessment and evidence based endodontics. The above information is designed to provide the student with a basic understanding of the field of endodontics.

DSRE 392. Nitrous Oxide and Conscious Sedation. .5 Unit.

This course consists of lectures and inter-student nitrous oxide administration for the undergraduate dental student to become informed and trained in the safe and effective use of nitrous oxide-oxygen inhalation light conscious sedation. The student will also learn the pharmacology and clinical application of agents used for intravenous light and moderate conscious sedation in the control of pain and anxiety in dentistry.

DSRE 393. Principles of Oral and Maxillofacial Surgery I. 1 Unit.

This didactic curriculum introduces the basic concepts of minor oral surgery relevant to the general dentist and also provides discussion on the following topics; medications used in oral surgery, management of the hospitalized patient, management of simple and complex odontogenic infections, management of complications in oral surgery, principles of diagnosis and treatment of facial trauma, and biopsy techniques in oral surgery.

DSRE 395. Introduction to Oral and Maxillofacial Surgery. .5 Unit.

This didactic course is designed to prepare the student for oral surgery clinical rotations and is comprised of the following topics, review of local anesthesia, review of applied anatomy, infection control, patient assessment and case presentation, informed consent, oral surgical armamentarium, and principles of exodontia.

DSRE 396. Temporomandibular Disorders and Occlusion. 1 Unit.

The National Academy of Science, Engineering, and Medicine, the Commission on Dental Accreditation, and the American Academy of Orofacial Pain recommend that all dentists and other health professionals need to understand the prevention, diagnosis, and management of temporomandibular disorders and orofacial pain. This clinically oriented course is designed to meet these recommendations and improve your care of these patients.

Disease Processes (DSPR)

DSPR 136. Cariology. 1 Unit.

This course in cariology includes development, distribution and determinants, role of fluorides, clinical features, risk assessment, and prevention of caries. The course will enable students to understand the etiology, patho-physiology, and clinical aspects of caries, which will complement the Problem-Based-Learning module, Epidemiology for Clinical Dentistry. In addition, this course will prepare the first-year students for their sealant rotation where they will be observing clinical features of caries in children before placing sealants on appropriate teeth.

DSPR 139. Neoplasia and Genetics. 1 Unit.

Neoplasia and its sequelae are a major healthcare problem in the United States and across the world. I would like dental practitioners and students to have a thorough understanding of and to be articulate in describing the aspects of neoplastic disease, ranging from theory to clinical impact. This understanding rests on familiarity with basic principles of genetics which increasingly is recognized to be implicated in the pathophysiology, diagnosis, prognosis, and treatment of a variety of diseases not limited to neoplasia. Such knowledge is essential in being able to: confidently and compassionately manage patients; speak comfortably with colleagues in other medical specialties; entertain the possibility of neoplastic disease in the appropriate clinical scenario.

DSPR 232. Periodontics. 1 Unit.

The second-year course in periodontology focuses on the application of basic principles of periodontology in diagnosis and treatment of periodontal disease. Emphasis is placed on development of clinical skills and diagnosis of periodontal disease in the first half of the course, ending with informal discussion of actual cases. Pre-surgical treatment planning is introduced in the second half of the course to prepare for the third year.

DSPR 234. Oral and Maxillofacial Pathology. 3 Units.

The practice of dentistry includes a routine 90-second head and neck exam on all new patients as well as the proper identification and management any and all abnormalities of the oral cavity, salivary glands and jaw bones. In order to confidently and compassionately provide comprehensive care to the dental patient, the dentist must be aware of and qualified in managing diseases native to the oral and maxillofacial regions and systemic or dermatologic diseases with oral and maxillofacial manifestations. Many systemic conditions with oral and maxillofacial manifestations have been taught in your general pathology lectures and will at most be mentioned in passing due to time constraints. You will be introduced to approximately 300 diseases in this course. I want all of you to succeed in this challenging course. Success entails recognizing that oral and maxillofacial pathology is best thought of as a foreign language, and must be learned, practiced and rehearsed as such to achieve mastery and confidence.

DSPR 333. Management of Medical Emergencies. .5 Unit.

The purpose of this course is to comprehensively review the recognition and management of common medical emergency situations that a dentist is likely to encounter in the dental office.

DSPR 341. Oral Diagnosis and Radiology. 2 Units.

The didactic curriculum is aimed at helping the beginning clinician (student) to develop and understand the diagnostic process. It is designed to present to the student a method, a process, by which the common oral problems facing the dental practitioner can be recognized, diagnosed, evaluated and managed.

DSPR 342. Oral Cancer Diagnosis. 1 Unit.

Cancer is a major health problem in the United States and accounts for a significant utilization of health care and research resources. Dentists have professional, ethical and legal responsibilities to recognize the signs and symptoms of oral cancer and render a prompt and accurate diagnosis. Patients with oral cancer have complex treatment needs and the dentist can have a positive impact on the quality of life of such patients. Students of dental medicine should understand the many facets of oral cancer so that they might be able to make a positive contribution to the well being of their patients, especially for those who will develop oral cancer.

DSPR 344. Principles of Medicine. .5 Unit.

The didactic curriculum provides a general background and discussion of the risk assessment of medical conditions in an ever-increasing aging population. Within the setting of out-patient care, as well as those that are hospitalized, patients often present for dental procedures with co-existing medical systemic illness that provide an added challenge to the dental provider. Management of these medical problems within the context of dentistry and medicine will be covered.

Expanded Function Dental Auxiliary (EFDA)

EFDA 111. Tooth Morphology for the EFDA. 1 Unit.

Instructional laboratory sessions provide experience with viewing models of teeth as well as reproducing teeth in wax. Mastery of terminology and basic facts of dental anatomy and tooth positions of permanent and primary teeth. Introduction of proper instrumentation begins.

EFDA 113. Dental Materials for the EFDA. 1 Unit.

Instructional laboratory sessions cover the physical and chemical properties and uses and manipulation of materials used in protection of the pulp and intracoronal temporization. Composition, properties and manipulation of dental amalgam, composite and pit and fissure sealant materials are also introduced. Isolation techniques and rubber dam placement lab.

EFDA 115. Restorative Dentistry for the EFDA I. 3 Units.

Skill development in the placement and carving of Class I, II, V and complex amalgam restorations on the typodont. Skill development in the placement and finishing and polishing of Class I, II, III, IV, and V composite restoration and amalgam restoration finishing and polishing on the typodont. Continued skill development in instrumentation, body positioning and ergonomics. Skill development in the use of low and high speed handpieces for rotary instrument use in finishing and polishing restorations. Skill development in self-evaluation using specific criteria. Pit and fissure sealant applications. **Student must show competency of skills acquired to be able to progress in Clinical Practicum for the EFDA**.

EFDA 116. Restorative Dentistry for the EFDA II. 2 Units.

Students begin preparation for the state board examination by demonstrating successful completion of amalgam and composite restorations with increasingly difficult grading evaluation, mastery of self evaluation skills, decreasing restoration placement time and by completing 3 mock board examinations. Students must pass a final clinical and didactic examination to pass the course. Emphasis on understanding Ohio EFDA Registration protocol.

EFDA 120. Clinical Practicum for the EFDA. 2 Units.

Students fulfill the Ohio State Dental Board requirement of having clinical experience on patients in CWRU approved dental clinics. Clinic sessions include a variety of restorative experiences on many patients. One 8 hour session is required for 4 weeks. Students will restore patients' teeth under the supervision of a licensed dentist and a clinical supervisor in clinics affiliated with CWRU. Emphasis is placed on restoring metallic and non-metallic restorations.

Health & Well-Being (HEWB)

HEWB 121. Foundations of Life Science. 4.5 Units.

This course includes an introduction to basic elements of cell structure and function. This includes the characteristics and role of different types of cells, the cell cycle, mechanisms for cell damage, repair and death, cell signaling, differentiation and gene expression. This course serves as a foundation for the modules in Health and Wellbeing and Disease Processes.

HEWB 123. Facial Growth. 1.5 Unit.

Introduction to the normal growth and development of the human face from embryology to adult.

HEWB 124. Masticatory Dynamics. 2 Units.

The didactic portion of the course describes the function of the masticatory structures with an emphasis on the path of teeth and temporomandibular joint structures during function.

HEWB 126. Masticatory Dynamics Lab. 1.5 Unit.

In the laboratory, students will continue developing the psychomotor skills necessary to reproduce the functional morphology of permanent teeth, and perform basic laboratory procedures.

HEWB 128. Body as Host. 4 Units.

This educational module focuses on the role of immune function in preserving and maintaining health; the role of bacteria, viruses, and fungi in health and infectious disease; and the host changes that occur during oral and systemic disease processes.

HEWB 130. Oral Histology. 1.5 Unit.

This course provides students with a basic understanding of the biological and histological processes involved in the development of the human oral region, particularly the calcified tissues.

HEWB 134. Head and Neck Structure and Function. 4.5 Units.

Head and neck anatomy is one of the core courses of dental education. It provides the foundation for dental education and the practice of dentistry. This course uses a mix of lecture, prosection laboratory and problem-based learning to provide the student with the anatomical content necessary for them to carry into their practices.

HEWB 200. Directed Studies. 1 - 6 Units.

Directed study under faculty supervision and with special permission of the Associate Dean for Education.

HEWB 349. Dentofacial Morphology. 1 Unit.

This course provides the dental student with an introduction to the assessment of dynamic faces and the relatively static dentition. The course details the etiologies and characteristics of various malocclusions including developmental disharmonies observed during the growth and development of a child. Primary emphasis is laid on empowering the student in the diagnoses of malocclusions employing study casts, intra and extra-oral photographs and, CBCTs or cephalograms and panoramic radiographs.

Health Disease and Processes (HWDP)

HWDP 131. Heart and Lungs in Health and Disease. 4.5 Units.

Dentists need to have a general understanding of their patients overall systemic health. Health issues involving the cardiovascular organs and the respiratory organs affect many of the patients they see, and can effect treatment and treatment outcomes. A comprehensive understanding of the anatomy (developmental, histologic and gross anatomical), physiology and pathology of the Thorax & Cardiorespiratory System is essential for this purpose.

HWDP 142. Gastrointestinal System in Health and Disease. 2 Units.

The practice of dentistry focuses on the mouth, the beginning of the gastrointestinal tract. Therefore, an understanding of processes like swallowing and salivation are central to the practice of dentistry, while a basic understanding of digestive function is central to the continued well-being of the patient because it is the portal for entry of nutrients to the body. Disorders associated with the digestive tract, or which impact the function of the digestive tract (for instance, bulimia) can have profound effects on oral health, while some pharmacological agents used in the treatment of those disorders have potential adverse effects on oral health. Therefore, a firm understanding of the gastrointestinal tract in health and disease is a necessity for modern dental care.

HWDP 232. Renal and Hematologic Systems in Health and Disease. 2 Units.

One of the major connective tissues of the human body is blood. The kidneys play a role in the filtration of the plasma and assist in the maintenance of blood pressure and acid-base balance. The cellular entities of the blood (red cells, white cells and platelets) are needed to provide flow of oxygen and other metabolic substrates to and from all the tissues of the body and play a significant role in the defense of the body and repair of these tissues. It is therefore necessary for the dental practitioner to understand the histology, anatomy, physiology and pathologic processes that affect these systems.

HWDP 243. Endocrine and Reproductive Systems in Health and Disease. 1.5 Unit.

Dentists need to have a general understanding of their patients overall systemic health. Health issues involving the endocrine and reproductive tracts can affect treatment and treatment outcomes. A comprehensive understanding of the anatomy (developmental, histologic and gross anatomical) physiology and pathology of these systems is essential for this purpose.

HWDP 245. Musculoskeletal System in Health and Disease. 1.5 Unit.

The musculoskeletal system is an intrinsic part of the practice of dentistry, where an understanding of how muscles work and the normal physiology of bone serve as a background to the understanding of mastication and occlusion. A variety of musculoskeletal disorders also impact directly or indirectly on the ability of the dentist to care for their patient, while some pharmacological agents used in the treatment of those disorders have potential adverse effects on oral health. Therefore, a firm understanding of the musculoskeletal system in health and disease is a necessity for a well-trained clinician.

HWDP 246. Neuroscience in Health and Disease. 2 Units.

Dentists need to have a general understanding of their patients overall systemic health. Health issues involving the nervous system can affect treatment and treatment outcomes. In addition, dentists will regularly be affecting normal neural function through the use of local anesthetics and anxiolytics. A comprehensive understanding of the anatomy (developmental, histologic and gross anatomical) physiology and pathology of these systems is essential for this purpose.

HWDP 300. Integrated National Dental Board Exam Preparation. 1 Unit.

This course is designed to prepare students for passage of the Integrated National Board Dental Examination. Students will complete learning modules and case studies, along with practice exam questions, in order to become more familiar with the INBDE questions format and to apply and reinforce the necessary knowledge.

Inquiry (INQU)

INQU 202. Introduction to Medicine: Patient Assessment. 1.5 Unit.

This course introduces the student to professional patient interaction and evaluation in a simulated environment. Students will develop interview techniques, learn patient appraisal skills, and techniques for communicating effectively in a health care environment. Students will experience patient interviews and assessment in a simulated environment with live patients.

Leadership (LDRS)

LDRS 101. Collaborative Practice I A. 1.5 Unit.

Interprofessional Education (IPE) occurs "when students or members of two or more professions learn with, from and about each other to improve collaboration and the quality of care" (CAIPE 1997, revised 2013). Through IPE, students develop the knowledge, skills and attitudes needed to prepare them for interprofessional collaboration, defined by the WHO as "when multiple health workers from different professional backgrounds work together with patients, families, carers (caregivers), and communities to deliver the highest quality of care." Over the last decade there has been a growing emphasis on developing the ability of all professionals to more effectively communicate and collaborate in the care of individuals, families, communities and populations in order to achieve the triple aim: enhancement of the patient or client experience, improvement in population health outcomes, and delivering more cost-effective care. With the triple aim in mind, Collaborative Practice I focuses on the domain of interprofessional collaboration. In addition to serving individuals, in this domain healthcare and partner professionals collaborate using population health and community engagement approaches in order to improve the health and well-being of individuals, families, communities, and populations. Therefore, students in this interprofessional service learning experience will learn teamwork skills through active participation in an authentic and meaningful community-based project that is focused on health and well-being for individuals, families, communities, or populations. Collaborative Practice I serves as an introductory IPE experience for dental, genetic counseling, medical, nursing, nutrition, physician assistant, psychology, social work and speech-language pathology students at CWRU. Depending on the School and program, the Collaborative Practice I experience is a free-standing course or integrated into one or more courses, blocks, rotations, etc. By the end of the experience, students will have acquired basic readiness to participate in subsequent interprofessional collaborative experiences.

LDRS 102. Collaborative Practice I B. 1.5 Unit.

Interprofessional Education (IPE) occurs "when students or members of two or more professions learn with, from and about each other to improve collaboration and the quality of care" (CAIPE 1997, revised 2013). Through IPE, students develop the knowledge, skills and attitudes needed to prepare them for interprofessional collaboration, defined by the WHO as "when multiple health workers from different professional backgrounds work together with patients, families, carers (caregivers), and communities to deliver the highest quality of care." Over the last decade there has been a growing emphasis on developing the ability of all professionals to more effectively communicate and collaborate in the care of individuals, families, communities and populations in order to achieve the triple aim: enhancement of the patient or client experience, improvement in population health outcomes, and delivering more cost-effective care. With the triple aim in mind, Collaborative Practice I focuses on the domain of interprofessional collaboration. In addition to serving individuals, in this domain healthcare and partner professionals collaborate using population health and community engagement approaches in order to improve the health and well-being of individuals, families, communities, and populations. Therefore, students in this interprofessional service learning experience will learn teamwork skills through active participation in an authentic and meaningful community-based project that is focused on health and well-being for individuals, families, communities, or populations. Collaborative Practice I serves as an introductory IPE experience for dental, genetic counseling, medical, nursing, nutrition, physician assistant, psychology, social work and speech-language pathology students at CWRU. Depending on the School and program, the Collaborative Practice I experience is a free-standing course or integrated into one or more courses, blocks, rotations, etc. By the end of the experience, students will have acquired basic readiness to participate in subsequent interprofessional collaborative experiences.

LDRS 111. Epidemiology for Public Health and Clinical Practice. 2.5 Units.

This 3-week intensive sequence provides the first experience with the problem-based learning format and focuses on foundational knowledge in epidemiology for evidence-based practice in dentistry. Problem-based cases will use oral health topics to demonstrate the skills for critical appraisal of the health literature. Large-group lectures will present the foundational knowledge; small-group settings will permit students to gain experience in applying these skills to relevant dental literature.

LDRS 113. Personal Finance. .5 Unit.

The purpose of this course is provide instruction in personal finance as it pertains to credit and credit management, personal finances and development of long term financial outcomes, personal insurance needs, and development and analysis of personal financial statements.

LDRS 116. Promoting Evidence-based Dentistry I. .5 Unit.

The course will present advanced topics in oral health epidemiology and research to enhance skills for critical appraisal of the oral health literature and facilitate the use of evidence-based decision making skills and critical thinking during D1 in preparation for use in clinical training. The course will build on topics in LDRS 111. Using diverse formats, students will enhance their skills to be efficient and effective in acquiring, appraising and applying scientific evidence. The course topics will address concomitant coursework to enhance relevance. A large-group lecture will present the foundational knowledge; faculty facilitated small-group discussions will permit students to gain experience in applying these skills to relevant dental literature. Student assignments can be included in a portfolio to demonstrate progress towards competency.

LDRS 118. Ergonomics. .5 Unit.

This course introduces students to the principles and implementation of ergonomics in dentistry.

LDRS 310. Professional Development. 1 Unit.

This course focuses on behavioral knowledge, skills, and attitudes the student-dentist will require to be effective in the delivery of patient-centered oral health care. Concepts introduced in the course INQU 102: Knowing the Patient are extended and built upon in the areas of communication skills, health promotion and health behavior change, ethics, and management of a diverse patient population. Instruction in the assessment and management of dental fear and anxiety is also included. This course will utilize a blended learning format, with a combination of on-line instructional videos and readings, in-class sessions, assignments and a simulated patient exercise.

LDRS 316. Practice Management I. 1 Unit.

This course is designed to develop practical knowledge and skills in dental practice management. As the student prepares for clinical practice, topics surrounding negotiation of working contracts, insurance contract evaluation, policies, compliance, and marketing are among some of the most important issues to be familiar with. The course will take a third year dental through the starting process of running a dental office and preparing them to write a business plan.

LDRS 317. Dental Auxiliary Management. .5 Unit.

This course introduces students to each type of auxiliary personnel in the dental office and describes their training, testing, duties delegated legally and how their utilization in the office setting can be optimized. Basic management considerations and theories of leadership are presented and various leadership styles are recommended for situations presented. This course provides an understanding of interacting with auxiliary and the process of delegation. The course defines state dental board rules and regulations that guide dentists in the utilization of auxiliary personnel. Such items as overhead costs are explored in relation to each auxiliary category. Information is presented on the implementation of the resultant delivery systems including ergonomics and scheduling initiatives.

LDRS 415. Practice Management II. 1.5 Unit.

Practice Management II is entirely focused on each student producing his or her business plan by researching a potential area where they intend to practice. The business plan is constructed from the results of research done to complete homework for each session. Student findings serve as the basis for discussion and sharing of ideas to aid each student in improving their business plan.

LDRS 416. Practice Management III. 1.5 Unit.

This course is designed to develop practical knowledge and skills in dental practice management. As the student prepares for clinical practice, topics surrounding negotiation of working contracts, insurance contract evaluation, policies, compliance, and marketing are among some of the most important issues to be familiar with. The course will take a fourth year dental student from start to finish of owning and running a successful dental practice.

Maintenance of Health (MAHE)

MAHE 145. ACE: Outreach Preventive Dentistry. 2 Units.

The didactic portion of the course provides generalized background of dental sealant placement and other preventive procedures. In addition the student will develop the knowledge of ethical dental practice and cultural awareness in preparing to provide care for an underserved population. The lab and clinical portion of the course will establish the student's ability to provide dental sealants with the culminating experience of providing care for children in the Cleveland Metropolitan School District (CMSD) as part of the MAHE 147 clinical course.

MAHE 147. ACE Clinical Outreach Preventive Dentistry. 2 Units.

The student will have the opportunity to practice their knowledge of ethical dental practice and cultural awareness while providing care for an under-served population by providing screening and dental sealants for children in the Cleveland Metropolitan School District (CMSD).

MAHE 214. ACE: Family First. 1 Unit.

The overarching goal of the clinical experience (ACE) is to incorporate the concepts of risk assessment and the importance of the family unit to oral health. The Family First ACE will allow students to explore the interaction between genetic and environmental factors in oral diseases and certain systemic conditions (diabetes, hypertension, and asthma). At the end of the "Family First" rotation the students would have achieved certain didactic and clinical objectives and the experience is linked to the second year didactic courses: Cariology, Periodontology, and Oral Pathology. This experiential learning includes clinical experience, didactic lectures, and small group discussions. Risk assessment for common oral diseases such as caries and periodontal diseases as well as for oral cancer is part of the clinical activities. Students will review the risk assessment and systemic health to delineate genetic and environmental factors through small group discussions.

MAHE 241. Preventive Periodontics. 1 Unit.

This course enables the student to recognize periodontal health and the changes that occur in the transition from health to disease. Lectures focus on the scientific basis for prevention of inflammatory periodontal diseases. The course provides instruction in how to implement preventive periodontal therapy under direct supervision by faculty.

MAHE 242. Periodontics. 1 Unit.

The course consists of clinical instruction that provides the student with knowledge of clinical data collection and therapy performed in the management of healthy patients who may have risks for periodontal diseases. Includes discussion on types of risks for progressing periodontal diseases, disease etiology and points of periodontal intervention and diagnosis.

MAHE 340. Nutrition for Dentistry. 1 Unit.

This course offers instruction in nutrition concepts relevant to the dental professional. Content includes the function of nutrients, their digestion and absorption, and intake recommendations; nutritional status assessment; role of nutrition in the growth and development of oral structures; nutrition and the periodontium; nutrition in immune-compromising conditions and oral lesions; nutrition concerns for the dentally compromised patient; nutrition needs throughout the life cycle; and the role of the dental professional in the nutrition care of patients.

Oral & Maxillofacial Surgery (OMFS)

OMFS 501. Oral and Maxillofacial Pathology Seminar. 1.5 Unit.

Surgery and pathology are inextricably linked specialties and the oral and maxillofacial surgeon must be familiar with all aspects of pathology in order to provide optimal care for the patient presenting with oral or maxillofacial disease. These aspects include: knowing when/how to sample disease, being familiar with different types of tissue specimens and means of specimen transport, providing necessary information to the pathologist, understanding how to read a pathology report, knowing the impact of a diagnosis on patient management, and minimizing capacity for error. The most successful oral and maxillofacial surgeons possess a broad wealth of knowledge in this area and know when to engage their pathologist directly- outside of the traditional requisition from/pathology report means of communication- in order to successfully manage even the most challenging patient presentations. This course prepares OMFS residents for productive relationships with their pathologists through discussion of carefully selected cases.

OMFS 502. Oral & Maxillofacial Surgery Parameters of Care: A Review of the Contemporary and Classic Literature. 1.5 Unit.

This didactic course is designed as a contemporary and classic review of primary literature for Oral and Maxillofacial Surgery residents. The literature review is based on the current published guidelines for clinical practice in Oral and Maxillofacial Surgery as described by the American Association of Oral and Maxillofacial Surgeons. Throughout the course, key papers are reviewed that have influenced or directly impacted current techniques, treatment algorithms, and methodologies. In accordance with the residents' clinical training, the full scope of Oral and Maxillofacial Surgery is reviewed in this course including: Trauma Surgery, Surgical Correction of Maxillofacial Deformities, Patient Assessment, Anesthesia in Outpatient Facilities, Dentoalveolar Surgery, Dental Implant Surgery, TMJ, Diagnosis and Management of Pathologic Conditions, Reconstruction, Cleft and Craniofacial Surgery, and Cosmetic Maxillofacial Surgery. An attempt is made to review specific topics at times during the academic year when the resident will most likely be participating in these types of cases.

OMFS 503. Surgical Case Presentation Conference. 1.5 Unit.

Collaboration provides an opportunity for ideas and knowledge to be shared. This course is designed for Oral & Maxillofacial Surgery residents of all levels to present operating room cases for the upcoming two weeks and share the decisions that were made to formulate the final treatment plans. While presenting the treatment plans the residents will discuss alternatives and the specific reasons why those plans were not chosen. With the input of faculty they will also share specific surgical techniques allowing residents to prepare to execute the upcoming surgical procedures. This course will help to educate the residents and prepare them to translate knowledge into improved operating room skills treating real patients.

OMFS 504. Basics Oral & Maxillofacial Surgery Conference. 1.5 Unit.

Collaboration provides an opportunity for ideas and knowledge to be shared. This course is designed for Oral & Maxillofacial Surgery residents of all levels to present timely and appropriate topics in Oral and Maxillofacial Surgery. While presenting these topics, the residents will discuss the concepts and procedure relevant to the surgical topic. With the input from attending faculty they will also share specific surgical techniques allowing residents used to address the surgical procedure of the topic. This course will help to educate the residents and prepare them to translate knowledge into improved operating room skills treating surgical patients.

OMFS 505. Oral and Maxillofacial Surgery Advanced Clinical Training. 1.5 Unit.

The didactic and clinical components of the oral and maxillofacial surgery (OMS) resident training program is designed to provide special knowledge and skills beyond the D.D.S training and oriented to the accepted standards of specialty practice as set forth in the Accreditation Standards for Advanced Specialty Education Programs. Resident progress to manage more complex surgical cases through an ongoing assessment process. The four-year OMS training program provides a complete progressively graduated sequence of outpatient, inpatient and emergency room experiences. The focus of the first three months is to become orientated to the role and responsibilities of the OMS resident on the care of the hospitalized patient and ambulatory oral surgical services. Their development is closely supervised by senior level OMS residents and the attending OMS teaching faculty. As the residents develop competency in basic procedures in outpatient, inpatient and emergency room experiences, the level of supervision progresses from direct visual to directed as appropriate. The first-year resident will rotate to affiliated hospital where they are provided with opportunities for independent inpatient and outpatient care experiences without the presence of the senior level residents and a close direct relationship with the OMS attending faculty. As they gain experience and faculty confidence, they are given their own independent operating room responsibilities for anesthesia care with the Anesthesia faculty. The Second year is devoted to Anesthesia training and progressing from full-time direct visual to direct visual supervision by the senior level anesthesia residents and Anesthesia faculty. The resident rotates through other surgical services such as a SICU and TRAUMA team. The third year resident is given much more independence and responsibility. The fourth and final year rotation of the OMS program, the resident is given increased responsibilities for patient care as they progress. The senior OMS resident return to OMS service and gain more independence and responsibility for patient care as permitted by their capabilities and the decreasing activity of the graduating senior resident. The senior residents are quickly given increasing responsibility in outpatient, inpatient and emergency room experiences as they demonstrate competence to the OMS attending teaching faculty.

OMFS 507. Specialty Rotation for OMFS MSD 2nd Yr. 12 Units.

During the second year of the OMFS MSD program, residents spend the majority of their time rotating through a variety of specialty clinics full-time, including the CWRU Dental Clinic and hospital Internal Medicine, Anesthesia, Trauma and Trauma ICU rotations. Internal Medicine: This rotation equips residents with skills in physical diagnosis and patient assessment from a medical viewpoint. By the end, residents will proficiently perform history and physical exams, Key competencies include recognizing health deviations affecting dental care, assessing procedural risks, and identifying when medical consultation is needed. Residents will gain hands-on experience in documenting medical histories, conducting physical exams, interpreting diagnostic tests, and making informed clinical judgments. Anesthesia: The resident will develop expertise in the administration of conscious sedation, mild, moderate and deep sedation as well as general anesthesia in the operating room setting under supervision. The resident will cultivate a clear understanding of a systematic, step-by-step approach to pre-, peri- and post-operative anesthesiology policies and procedures. Upon finishing the rotation, the resident will acquire extensive exposure to: Assessing, managing, and overseeing patients who are under general anesthesia. Documenting and evaluating patients before, during, and after surgery. Establishing intravenous access in patients. Handling airway management and performing intubations. Understanding the usage and actions of different anesthetic agents. Gaining experience in patient monitoring. Preventing and managing anesthetic emergencies. Trauma and Trauma ICU: The trauma rotation offers a robust curriculum aimed at advancing resident's proficiency in assessing, diagnosing, and treating trauma patients. By integrating clinical practice, structured learning sessions, and supervised inpatient care, residents will augment their expertise in trauma management. The program prioritizes clinical acumen, interpersonal communication, and surgical techniques, while providing extensive hands-on exposure to critical care environments. This ensures trainees develop essential competencies and gain valuable experience in handling intricate trauma cases and intensive care challenges.

OMFS 694. Program Year I. 1 - 3 Units.

Interns are expected to take calls at UH and, where applicable, the Veteran's Administration (VA). After the initial two months at UH, one of the interns will begin a three-month rotation at the VA as the principal OMFS resident. Both rotations will give the intern experience in diagnosis, information-gathering, dentoalveolar surgery, and major surgery within the scope of OMFS. The last two months of the first year are spent on the UH Anesthesia service. The resident will be paired with an anesthesiology resident or attending, improving upon and learning procedures involving management of the medically-compromised patient, airway management, pharmacologic management, intravenous sedation and general anesthesia. Formal conferences are held to advance the residents in oral and maxillofacial pathology, contemporary issues in OMFS, orthognathics, implantology and anesthetic principles, case presentation, and OMFS knowledge updates. As well, interns are second year medical students and take part in a full-year course in physical diagnosis.

OMFS 695. Program Year II. 1 - 3 Units.

Students must complete 40 weeks of basic core clerkships through the academic year: Family Medicine, Internal medicine, Aging, OB-GYN, Pediatrics, Neuroscience, Psychiatry, surgery, and emergency medicine. They must complete 8 additional weeks of clinical electives, this may include a OMFS rotation.

OMFS 696. Program Year III. 1 - 3 Units.

Interns are expected to take calls at UH and, where applicable, the Veteran's Administration (VA). After the initial two months at UH, one of the interns will begin a three-month rotation at the VA as the principal OMFS resident. Both rotations will give the intern experience in diagnosis, information-gathering, dentoalveolar surgery, and major surgery within the scope of OMFS. The last two months of the first year are spent on the UH Anesthesia service. The resident will be paired with an anesthesiology resident or attending, improving upon and learning procedures involving management of the medically-compromised patient, airway management, pharmacologic management, intravenous sedation and general anesthesia. Formal conferences are held to advance the residents in oral and maxillofacial pathology, contemporary issues in OMFS, orthognathics, implantology and anesthetic principles, case presentation, and OMFS knowledge updates. As well, interns are second year medical students and take part in a full-year course in physical diagnosis.

OMFS 697. Program Year IV. 1 - 3 Units.

Fourth-year residents are primarily off-service as general surgery interns. Residents rotate through plastic surgery, ENT surgery, general surgery, dermatological surgery, and trauma surgery at UH and MetroHealth hospital.

OMFS 698. Program Year V. 1 - 3 Units.

During this senior year, the resident returns to the OMFS service as chief for six months. The chief resident is responsible for the resident service, working-up surgical cases and is typically the first assistant in major surgical cases. During this time, the chief works closely with the AEGD residents to plan and perform surgery on simple and advanced implant cases.

Restoration Health (REHE)

REHE 120. Introduction to Radiography. 1.5 Unit.

Foundation course consisting of lectures and laboratory covering basic principles of radiography. Included are: instructions on taking intraoral radiographs, radiation physics involved in x-ray generation and the parts and function of the x-ray unit, radiation biology of x-ray interaction with tissue, head and neck anatomy and pathology with regards to radiographic interpretation. Each student will have clinic rotations.

REHE 151. Dental Anatomy. 3 Units.

The didactic portion of the course describes the anatomy of the masticatory structures with an emphasis on teeth, deciduous and permanent.

REHE 152. Basic Procedures in Fixed Prosthodontics. 1 Unit.

This course will develop and build core elements vital to Fixed Prosthodontics, specifically related to single unit restoration. The course will place an emphasis on the following topics: clinical indications and application of the single unit restoration, principles of engineering of abutment preparations, preparation designs, soft tissue management, provisional and definitive restorative materials, clinical progression and treatment sequence for the cementation of provisional and definitive fixed partial denture.

REHE 153. Dental Anatomy Laboratory. 1 Unit.

In the laboratory, students will develop the psychomotor skills necessary to reproduce the functional morphology of permanent teeth.

REHE 154. Basic Procedures in Fixed Prosthodontics Lab. 1 Unit.

Laboratory component of REHE 152.

REHE 156. DentSim Laboratory. 1 Unit.

This course covers the criteria, techniques and practice of preparing 'ideal/standard' operative preparations. The restorative procedures will be performed on typodont teeth mounted in a computer assisted simulator (DentSim).

REHE 158. Dental Materials I. .5 Unit.

This is a didactic course that defines and describes properties, composition, indications and contraindications of used of different dental materials.

REHE 162. Basic Procedures in Restorative Dentistry I. .5 Unit.

This course introduces students to the criteria, the techniques for, and practice of preparing 'ideal/standard' Class I and V (and possibly Class II) operative preparations. In this course, the emphasis will be on the more traditional posterior amalgam Class I and V preparations. Students will be introduced to basic concepts of preparation design and amalgam restorations. In addition, the composition and properties of amalgam will be mentioned (however, the Dental Materials I Course will provide the basic information regard this material.) The restorative procedures will be performed on typodont teeth mounted in a simulator. The emphasis will be on traditional preparation design and execution.

REHE 172. Basic Procedures in Restorative Dentistry I Lab. 1 Unit.

Laboratory component of REHE 162.

REHE 252. Pain Control. 1 Unit.

This course consists of lectures, demonstrations and clinical participation for the undergraduate dental student to become informed and trained in the safe and effective use of local anesthetics in dentistry. The students will also learn the pharmacology and clinical application of these agents in the control of pain and anxiety.

REHE 253. Basic Procedures in Esthetics. 1 Unit.

This course provides formal lecture presentations and laboratory exercises to introduce the students to basic operative procedures for direct composite resin restorations.

REHE 254. Pharmacology. 4 Units.

This course is a basic introduction to the principles of pharmacology and to drug classes of particular relevance to dentistry. Drugs used in other medical areas will also be reviewed. Information concerning drug doses is NOT included. Information concerning calculations used in determining doses WILL BE included.

REHE 256. Radiologic Interpretation. 1 Unit.

Follow-up course to Introduction to Radiography, with a primary focus on Radiographic Interpretation, consisting of lecture and laboratory covering basic principles of radiography, interpretation and diagnosis. Each student will have a clinic rotation.

REHE 257. Prosthodontic Technology. 2 Units.

The didactic portion of the course relates not only the theory of complete denture construction, but also the human elements that are involved. This includes the physical dental examination, evaluation of the patient's needs and descriptions of the various procedures needed to successfully rehabilitate an edentulous patient.

REHE 258. Principles of Treatment Planning I. 1 Unit.

This course provides an advanced teaching concept called Flipped Classroom. The flipped classroom is a teaching module model in which the typical lecture and homework elements of a course are reversed. Short video lectures are viewed by students at home before class sessions, while in-class time is devoted to exercises, projects, or discussions (we refer to these as LEARNING MODULES). The video lecture is often seen as the key ingredient in the flipped approach. Such lectures are created by the instructor and posted online.

REHE 259. Basic Procedures in Fixed Prosthodontics II. 1 Unit.

This course builds upon those core elements covered in REHE 152/154. Emphasis on principles of engineering for fixed partial dentures, preparation and design of fixed partial dentures, considerations for the restoration of endodontically involved teeth, and definitive and provisional fixed partial denture restorations. Introduces dental material topics related to fabrication of a fixed partial denture restoration, including: chemomechanical soft tissue retraction, die spacers, investments, casting and casting alloys, ceramics, soldering, provisional materials, prefabricated and custom post and core systems. Emphasis on principles of engineering for fixed partial dentures, preparation and design of fixed partial dentures, considerations for the restoration of endodontically involved teeth, and definitive and provisional fixed partial denture restorations. Introduces dental material topics related to fabrication of a fixed partial denture restoration, including: chemomechanical soft tissue retraction, die spacers, investments, casting and casting alloys, ceramics, soldering, provisional materials, prefabricated and custom post and core systems.

REHE 260. Basic Procedures in Fixed Prosthodontics III. .5 Unit.

This course builds upon those core elements covered in REHE 152/154 and REHE 259/269. Emphasis on principles of engineering for fixed partial dentures, preparation and design of fixed partial dentures, considerations for the restoration of endodontically involved teeth, and definitive and provisional fixed partial denture restorations. Introduces dental material topics related to fabrication of a fixed partial denture restoration, including: chemomechanical soft tissue retraction, die spacers, investments, casting and casting alloys, ceramics, soldering, provisional materials, prefabricated and custom post and core systems. Emphasis on principles of engineering for fixed partial dentures, preparation and design of fixed partial dentures, considerations for the restoration of endodontically involved teeth, and definitive and provisional fixed partial denture restorations. Introduces dental material topics related to fabrication of a fixed partial denture restoration, including: chemomechanical soft tissue retraction, die spacers, investments, casting and casting alloys, ceramics, soldering, provisional materials, prefabricated and custom post and core systems.

REHE 262. Basic Procedures in Restorative Dentistry II. 1 Unit.

This course, together with the first year Intro to BP Operative Dentistry and the BP Esthetic Dentistry Course covers the criteria, the techniques for, and practice of preparing 'ideal/standard' operative preparations and placement of operative restorations. In this portion of the course, the emphasis will be on posterior Class II amalgam preparations and restorations, as well as an introduction to cast gold inlay and onlays, and an introduction to CEREC (CEramic REConstruction) Onlays. Students will be introduced to basic cariology and radiology as it relates to operative dentistry. In addition, the composition and properties of the following materials will be reviewed: amalgam, liners and bases, and gold. The Dental Materials Course will provide the basic information regarding these materials. The restorative procedures will be performed primarily on typodont teeth mounted in a simulator. Extracted teeth with caries will also help students appreciate the different tactile responses of caries, dentin and enamel. There will be an emphasis on the following: the rationale for types of preparations and materials, indications and contraindications for different materials and types of restorations, and clinical problem solving related to operative dentistry in total treatment care.

REHE 263. Basic Procedure in Esthetics Lab. .5 Unit.

Preclinical component of REHE 253. Basic Procedures in Esthetic Dentistry.

REHE 264. Endodontics. .5 Unit.

The didactic and preclinical curriculum covered in endodontics in REHE 264 and followed in DSRE 391 provides the major endodontic treatment information for this program. Specific subjects covered are diagnosis, pulp and periapical pathosis, radiology, pharmacology, anesthesia, pain management, emergency treatment, pulp treatment, trauma, mechanical innovations, apexification, bleaching, endodontic-periodontal complexities, preparation of endodontically treated teeth, and endodontic surgery. The above information is designed to provide the student with a basic understanding of the field of endodontics.

REHE 266. Partial Denture Design. 3 Units.

This course covers the second subcategory of removable dentures with the Complete Dentures course REHE 257/267. The title "Removable Partial Denture Technology" in fact covers a very vast field of skills and knowledge required for the fabrication of a removable partial denture in collaboration with the dental laboratory and the dentist. Its preliminary assessment and diagnostic requirements make it very close to oral diagnostic sciences; preprosthetic radiographic, surgical, periodontal and endodontic considerations make it very close to these disciplines as much as it is a restorative/rehabilitative procedure. As the design and construction of a metal framework is quite a hard topic to fully understand and master, while a must for being a successful general dentist, the course will mainly emphasize removable partial denture design. The skills and competencies obtained from the previous removable dentures course will help students to understand some of the components of removable partial dentures so that the course will be focused on other components peculiar to removable partial dentures.

REHE 267. Prosthodontic Technology Lab. 2 Units.

The laboratory phase is the hands-on course where the student will go through the technique of construction of a complete maxillary and mandibular denture. This will include both a traditional and implant supported overdenture project.

REHE 268. Basic Procedures Competency. 2 Units.

This course will build on the basic techniques learned in the previous basic procedure courses and aims to prepare the students for their clinical experience.

REHE 269. Basic Procedure Fixed Prosthodontics II Lab. 1.5 Unit.

Laboratory component of REHE 259-1.

REHE 270. Basic Procedure Fixed Prosthodontics III Lab. 1 Unit.

Laboratory component of REHE 259.

REHE 272. Basic Procedures in Restorative Dentistry II Lab. 1 Unit.

Laboratory component of REHE 262.

REHE 274. Endodontics Lab. 1 Unit.

Laboratory component of REHE 264

REHE 276. Partial Denture Design Lab. 2 Units.

Laboratory component of REHE 266.

REHE 351. Surgical Periodontics. 1 Unit.

The course consists of didactic and clinical instruction that provides the student with knowledge of the various types of surgical therapy performed by periodontitis in the management of patients with various periodontal disease conditions. Includes discussion on types of surgery, points of periodontal intervention and when to refer patients to periodontal surgery.

REHE 353. Principles of Treatment Planning II. 1 Unit.

This course provides lecture presentations to help prepare the student to deal with their patients from the standpoint of patient management and treatment planning. The lectures will guide the students through the thought processes necessary in the development of workable treatment plans. The emphasis will be on exposing the students to principles of treatment planning, integrating evidence based dentistry. The lectures will emphasize the steps and sequencing approach to treatment planning and will include the concept of decisional analysis. This course utilizes knowledge the students have acquired from previous classes.

REHE 355. Esthetic Dentistry. 1 Unit.

This course provides formal lecture presentations and laboratory exercises to familiarize the students to various esthetic dental materials and techniques to achieve optimal esthetic results.

REHE 358. Dental Materials II. .5 Unit.

This is a didactic course that defines and describes properties, composition, indications and contraindications of uses of different dental materials

REHE 360. Implant Dentistry. 1 Unit.

The course is designed to introduce the third year dental students to the concepts of dental implantology. Students will be introduced to computer guided dental implant treatment planning program Nobel Clinician. This course will provide didactic and laboratory instructions for the students to be able diagnose, treatment plan and restore a patient who needs a single implant.

REHE 362. Clinical Application of CAD/CAM Technologies. .5 Unit.

This course covers the criteria, techniques and practice of using CAD/CAM technologies in the clinical environment. In this course, emphasis will be on ceramic restorations made by Cerec (Sirona), as well as an introduction to different options of CAD/CAM machines available in the market. Students will be introduced to an advanced level of expertise in using the latest Cerec software in a variety of clinical applications. There will be also emphasis on the rationale for types of preparations and material selection based on the correct clinical indication.

REHE 400. Regional Board Preparation. .5 Unit.

The purpose of this course is to prepare the dental student to challenge a clinical licensing board examination. The students will be examined on the appropriate licensing board materials, and patient clinical activities. Students will be given formative feedback on typodont exercises as needed for their licensing examination.

REHE 413. Advanced Implant Dentistry I. 1 Unit.

This course is designed to expose the student to advance implant therapies for the dentate and edentulous patient. Through lectures and discussions the students will be demonstrated the multitude of variations of care available for these patients and the restorative processes necessary to delivery that care. Limitations of each of these modalities will be thought. Guidelines of dental implant therapy allowing them to provide most appropriate treatments will be given.

REHE 414. Advanced Implant Dentistry II. 1 Unit.

This course is designed to expose students to advanced implant treatment options that are available for the partially and fully edentulous patients. Through lecture, discussions and treatment planning sessions students will be exposed to the multitude of treatment options available for the patients and the restorative processes necessary to successful treatment completion. They also will understand the limitations of each of these modalities within the scope of dental implant therapy allowing them to provide the most appropriate treatment direction for their patients.

REHE 453. Principles of Treatment Planning III. 1 Unit.

Treatment Planning III is designed to permit participation by the student-doctor in the steps in developing a treatment plan. The initial sessions will review data gathering, data interpretation, creating diagnoses and developing both a definitive and alternate treatment plans. Students will be provided with case studies which will be the basis for discussion. Utilizing the preceptor groups, we will stress the analysis of data and the use of the results to develop both diagnoses and treatment plans.

REHE 455. General Anesthesia, Oral Surgery. .5 Unit.

The didactic curriculum provides a general background in the pharmacologic, physiologic and clinical aspects of moderate and deep conscious sedation and general anesthesia as may be applicable for oral and general surgery.

REHE 482. Orthodontics. 1 Unit.

Senior orthodontics provide instruction enabling the dental student to gain judgment, knowledge and skills to select and treat uncomplicated tooth irregularities in children and adults. The student is also versed in the technique of intra- professional communication and referral. In addition, advanced topics in comprehensive orthodontics, e.g. ortho-surgical problems, orthodontic management, and orthopedic treatment, mixed dentition treatment and functional appliance therapy are discussed.

REHE 484. Aligners in Orthodontics Elective. 1 Unit.

The elective course on the use of aligners in orthodontics is a didactic course that includes clinical exposure, where D4 students will have a more in-depth orthodontic experience.

REHE 488. Case Presentations I. 1 Unit.

First Semester of Case Presentation is dedicated to the review example of comprehensive treatment planning material in preparation for the written Western Regional Board, Northeast Regional Board Dental Simulated Clinical Examination and the Case Based Examination (CBE) and case based questions from the National Boards Part II, by discipline. Selected case studies will be presented by the faculty that demonstrates comprehensive care and evidence based dentistry. These cases will be presented in lecture format utilizing Online questions relating to the case will be asked during each presentation. Clinical techniques germane to the various case reports will be presented as needed.

REHE 489. Case Presentations II. 1 Unit.

First Semester of Case Presentation is dedicated to the review example of comprehensive treatment planning material in preparation for the written Western Regional Board, Northeast Regional Board Dental Simulated Clinical Examination and the Case Based Examination (CBE) and case based questions from the National Boards Part II, by discipline. Selected case studies will be presented by the faculty that demonstrates comprehensive care and evidence based dentistry. These cases will be presented in lecture format utilizing Online questions relating to the case will be asked during each presentation. Clinical techniques germane to the various case reports will be presented as needed.

REMA 270. Introduction to Pediatrics. 1 Unit.

Students will learn principles and practices of modern dental care for children including diagnostic, preventive, and treatment procedures applied to dental caries, periodontal disease, malocclusion, growth and development in children. In caring for the child patient, this course emphasizes current concepts of behavior guidance of children in the dental treatment setting.

REMA 327. Non-Surgical Periodontal Therapy Intensive. 2 Units.

This course focuses on introduction, from pre-clinical to clinical phase, of periodontal non-surgical therapy. There will be a didactic and hands-on component. The didactic component will be dedicated to examination, diagnosis, prognosis, risk assessment and treatment planning of the periodontal patient. The hands-on component will include patient examination, charting, ultrasonic and sonic instrumentation, hand instrumentation, and clinical case discussion.

REMA 380. Introduction to Geriatric Dentistry. 1 Unit.

This course focuses on the study of aging in the population and its effects on treatment planning and actual dental treatment of geriatric patients from well to frail. Didactic instruction and case presentations would cover a wide variety of medically compromising conditions, physical disabilities and sensory impairments. The effects of these conditions as they pertain to dentistry will be discussed together with economic, social and community variables that need to be addressed to achieve rational dental care.

Restoration & Maintenance of Health (REMA)

REMA 261. Preclinical Orthodontics. 1 Unit.

Sophomore orthodontics includes relevant areas of applied growth and development, diagnostic methods and treatment planning. Topics included are: Histology and Physiology of Tooth movement and Laboratory Techniques related to the fabrication and use of suitable orthodontic appliances including material and biologic background necessary for proper clinical management of these appliances.