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<th>Course Code</th>
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<th>Credit Hours</th>
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<tr>
<td>OBI 650</td>
<td>Oral Biology for Postdoctoral Dental Students</td>
<td>2</td>
<td>This seminar course provides a review of selected topics in the biological sciences. Emphasis is placed on the use of current literature for an in-depth study of those aspects of the subject particularly relevant to the practice of dentistry. Prereq: Admission to the fourth-year, College of Medicine and/or permission of the Student Progress and Promotions Committee.</td>
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<tr>
<td>OBI 720</td>
<td>Microbial Structure and Function</td>
<td>4</td>
<td>Molecular basis of structure and function in unicellular microbes. Molecular genetic and structural approaches to the analysis of bacterial architecture growth, division, and differentiation. Prereq: Consent of instructor, BCH 501, BCH 502. (Same as MI 720 and BIO 720.)</td>
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<tr>
<td>OBI 812</td>
<td>Dental Biochemistry</td>
<td>6</td>
<td>This is a comprehensive course in biochemistry designed to fulfill the specific needs of student dentists. Course content is generally outlined in the American Association of Dental Schools suggested curriculum guidelines for biochemistry. Part I acquaints students with the chemical constituents of protokaryotic and eukaryotic cells; topics include the chemistry of lipids, carbohydrates, proteins, vitamins and coenzymes, and the nature of enzyme action. Part II integrates the chemical principles learned from Part I with concepts of cell dynamics, structure, function, subcellular organization, and metabolism. Topics include intermediary metabolism, bioenergetics, DNA replication, protein synthesis, and cellular regulatory and control mechanisms. Course content, where possible, is related to current concepts concerning the etiology of oral diseases, their treatment, and prevention to assist student dentists in attaining institutional goals and objectives for clinical competency. Prereq: Admission to the College of Dentistry. (Same as BCH 810.)</td>
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<tr>
<td>OBI 814</td>
<td>Human Function</td>
<td>8</td>
<td>This course provides in-depth instruction on the physiological mechanisms of body function from the single cell to the organism level. The course is team taught by medical scientists and clinicians. Teaching methodologies include didactic and Socratic lectures, small group discussions, demonstrations and live model and computer simulated laboratories. Lecture, 20 hours per week. Prereq: For MD 818/PGY 818: Admission to medical school (first year). For OBI 814: Admission to the Dental School and OBI 812. (Same as MD/PGY 818.)</td>
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<tr>
<td>OBI 822</td>
<td>Microbiology, Immunology and Infectious Disease</td>
<td>6</td>
<td>This course enables student dentists to understand how microorganisms live and infect humans and how humans respond to these infections to preserve health. Part I of the course presents basic microbial structure, function, and genetics; and principles of chemotherapy and drug resistance. Part II covers mammalian host defenses and the molecular basis of immunity. Part III presents the biologic and clinical basis of infectious diseases of all major organ systems including the mouth. The course focuses on the mechanism of pathogenesis and the common features of all forms of parasitism beginning with the encounter of the host with the microbe and ending with the outcome - the host wins, the microbe wins, or they coexist. Dental examples are used where possible so that student dentists will be able to more readily apply concepts to the diagnosis, therapy, and prevention of infectious diseases of the mouth and contiguous tissues that they encounter later in the curriculum and in their practice of dentistry. Lecture: 103 hours. Prereq: ANA 530, ANA 532, ANA 534, OBI 812, OBI 814 or consent of course director.</td>
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<tr>
<td>OBI 826</td>
<td>Dental Pharmacology and Therapeutics</td>
<td>4</td>
<td>This course will provide students with a fundamental understanding of the pharmacology and therapeutic uses of drugs commonly used by their patients and in their practice. Prereq: OBI 812 and OBI 814. (Same as PHA 822.)</td>
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<tr>
<td>OBI 840</td>
<td>Clinical Dental Pharmacology</td>
<td>1</td>
<td>This course will reinforce to fourth-year dental students the principles of basic and applied pharmacology enabling them to evaluate and manage patients with systemic and oral diseases. The course will be given before the Dental National Board Examination. This should help the students review for the pharmacology portion of the examination. Advances in drug therapy that have occurred since the basic pharmacology courses will be discussed. The course will be presented in both lecture and case presentation format to help the students understand and recognize the importance of pharmacologic agents in the management of their patients. Lecture: 16 hours. Prereq: OBI 812, OBI 814, OBI 822, OBI 826, CDS 821 CDS 831, and ODM 831. (Same as PHA 840.)</td>
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<tr>
<td>OBI 850</td>
<td>Gynecologic Oncology</td>
<td>4</td>
<td>This comprehensive course in oral biology will teach the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to second-year medical curriculum and approval of adviser.</td>
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<tr>
<td>OBI 851</td>
<td>Obstetrics and Gynecology Preceptorship</td>
<td>1</td>
<td>With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Obstetrics and Gynecology. The intent of this course is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.</td>
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<tr>
<td>OBI 852</td>
<td>Obstetrics and Gynecology Independent Study</td>
<td>1</td>
<td>This course provides in-depth instruction on the physiological mechanisms of body function from the single cell to the organism level. The course is team taught by medical scientists and clinicians. Teaching methodologies include didactic and Socratic lectures, small group discussions, demonstrations and live model and computer simulated laboratories. Lecture, 20 hours per week. Prereq: For MD 818/PGY 818: Admission to medical school (first year). For OBI 814: Admission to the Dental School and OBI 812. (Same as MD/PGY 818.)</td>
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<tr>
<td>OBI 863</td>
<td>Maternal-Fetal Medicine</td>
<td>4</td>
<td>This is a comprehensive course in obstetrics designed to achieve proficiency in radiographic technique and the interpretation of intraoral and extraoral dental radiographs. Adult, pediatric, panoramic and occlusal techniques and interpretations are presented. Principles of image formation, radiation biology, radiation hazards and safety, new imaging procedures and special radiographic procedures for the dentist are included. Lecture/problem based learning/ semina/hands-on technique application; 32 hours. Prereq: CDS 815 or consent of course director.</td>
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<tr>
<td>ODM 810</td>
<td>Oral and Maxillofacial Radiology and Diagnostic Imaging</td>
<td>2</td>
<td>This course is designed to achieve proficiency in radiographic technique and the interpretation of intraoral and extraoral dental radiographs. Adult, pediatric, panoramic and occlusal techniques and interpretations are presented. Principles of image formation, radiation biology, radiation hazards and safety, new imaging procedures and special radiographic procedures for the dentist are included. Lecture/problem based learning/ seminar/hands-on technique application; 32 hours. Prereq: CDS 815 or consent of course director.</td>
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<tr>
<td>ODM 821</td>
<td>Clinical Oral Diagnosis I.</td>
<td>1</td>
<td>This course consists of two components: 1) examination, diagnosis, and treatment planning for patients assigned to dental students in general clinics; and 2) an emergency clinic assignment in which the students will diagnose and treat patients with acute oral problems. Clinic, 30 hours. Prereq: CDS 811; Coreq: CDS 824.</td>
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<tr>
<td>ODM 830</td>
<td>Management of the Medically Compromised Patient</td>
<td>3</td>
<td>This course will provide students with the knowledge required to manage medically compromised patients in the outpatient dental office. Basic clinicalopathological information about commonly occurring medical disorders, the impact medications that these patients take have, the special problems they have, and their effects on dental health care will be presented. Critical thinking is encouraged so that the students can use their diagnostic skills in the appropriate manner to identify and manage patients with systemic disorders. Lecture, 43 hours; laboratory, 4 hours. Prereq: Approval of dean and/or his designee for academic affairs and the course director.</td>
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1999-2000 Course Descriptions – O

ODM 831 CLINICAL ORAL DIAGNOSIS II. (1)
This course is a continuation of ODM 821 and also consists of two components: 1) examination, diagnosis and treatment planning for patients assigned to dental students in general clinics; and 2) emergency clinic assignments in which the students will diagnose and treat patients with acute oral problems. Clinic, 40 hours. Prereq: ODM 821; coreq: CDS 832.

ODM 841 CLINICAL ORAL DIAGNOSIS III. (1)
This course is a continuation of ODM 831 and also consists of two components: 1) examination, diagnosis and treatment planning for patients assigned to dental students in general clinics; and 2) emergency clinic assignments in which the students will diagnose and treat patients with acute oral problems. Clinic, 40 hours. Prereq: ODM 830 and ODM 831.

ODM 850 ORAL DIAGNOSIS ELECTIVE. (1-10)
Elective courses offered by the Department of Oral Diagnosis and Oral Medicine provide opportunities for further study of experience in various aspects of oral diagnosis and medicine. Topics may include extraoral radiology, advanced X-ray technique, oral medicine, and clinical laboratory experience. Hours variable ranging from a minimum of 16 hours lecture/discussion to a maximum of 10 weeks clinical experience. May be repeated to a maximum of 10 credits. Prereq: The minimum year in dental school and any course prerequisites will be announced for each topic.

OFP Oral Health Practice/ Orofacial Pain Center

OFP 634 CURRENT CONCEPTS IN TEMPOROMANDIBULAR DISORDERS. (3)
This course provides the student with information on the anatomy, physiology and function of the masticatory system. The etiology, diagnosis and treatment of temporomandibular disorders will be emphasized. Lecture, 41 hours; laboratory, 15 hours per semester. Prereq: Acceptance into the College of Dentistry M.S. Program and/or consent of the College of Dentistry’s Director of Graduate Studies and the course director.

OFP 636 CLINICAL MANAGEMENT OF TEMPOROMANDIBULAR DISORDERS. (3)
This course provides the student with clinical experience in the diagnosis and management of temporomandibular disorders. The student will provide treatment for patients referred to the Orofacial Pain Center under the supervision of the course director. Clinic, 144 hours. Prereq: Acceptance into the College of Dentistry M.S. Program and/or consent of the College’s Director of Graduate Studies and the course director.

OFP 700 OROFACIAL PAIN TREATMENT PLANNING SEMINAR. (2)
This course will provide the student with experience in diagnosing and treatment planning various orofacial pain patients. Lecture: 32 hours per year or 16 hours per semester. Prereq: Acceptance into the College of Dentistry M.S. Program and/or consent of the College’s Director of Graduate Studies and the course director.

OFP 734 CURRENT CONCEPTS IN OROFACIAL PAIN. (3)
This course provides the students with information on non-masticatory orofacial pain problems. The etiology and differential diagnosis of head and neck pain will be emphasized. The student will learn the dentist’s role in the management and/or referral of complex facial pain problems. Prereq: OFP 634 and OFP 636.

OFP 736 CLINICAL MANAGEMENT OF OROFACIAL PAIN. (3)
This course provides the student with clinical experience in the diagnosis and management of complex orofacial pain problems. The student will provide treatment for patients referred to the Orofacial Pain Center under the supervision of the course director. Clinic, 144 hours. Prereq: OFP 634 and OFP 636.

OHP Oral Health Practice

OHP 850 INDEPENDENT WORK IN ORAL HEALTH PRACTICE. (1-3)
An elective course offered by the department of Oral Health Practice. Students may work on individual projects in one or more of the disciplines encompassed by this department under the direction of a faculty member. The work should involve independent laboratory or clinical research and include supporting literature searches. The end result should be either a table clinic presentation or a paper suitable for publication. The minimum number of hours to be spent on the project and the means of evaluation will be decided before the project. May be repeated to a maximum of 12 credits. Prereq: Specific course prerequisites and year in dental school will depend on the nature of the proposed project; consent of instructor.

OHS Oral Health Science

OHS 850 INDEPENDENT WORK IN ORAL HEALTH SCIENCE. (1-3)
An elective course offered by the department of Oral Health Science. Students may work on individual projects in one or more of the disciplines encompassed by this department under the direction of a faculty member. The work should involve independent laboratory or clinical research and include supporting literature searches. The end result should be either a table clinic presentation or a paper suitable for publication. The minimum number of hours to be spent on the project and the means of evaluation will be decided before the project. May be repeated to a maximum of 12 credits. Prereq: Specific course prerequisites and year in dental school will depend on the nature of the proposed project; consent of instructor.

OPH Ophthalmology

OPH 825 SECOND-YEAR ELECTIVE, OPHTHALMOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Ophthalmology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

OPH 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
- OPH 850 CLINICAL CLERKSHIP IN OPHTHALMOLOGY
- OPH 852 ADVANCED CLINICAL CLERKSHIP IN OPHTHALMOLOGY
- OPH 890 OPHTHALMOLOGY OFF-SITE

OPT Oral Pathology

OPT 651 GRADUATE ORAL PATHOLOGY. (3)
Seminar course in advanced oral pathology. Prereq: Dental degree and enrollment in a graduate program of the College of Dentistry, or consent of instructor.

OPT 820 GENERAL PATHOLOGY FOR STUDENT DENTISTS. (3)
This basic course covers general pathology, which will prepare the student dentist to concentrate on the specialized area of oral pathology. Emphasis is placed on cell damage, inflammation and repair, neoplasia and hemostasis, as well as the in-depth study of selected systemic diseases that may affect dental patient management. Prereq: Enrollment in the College of Dentistry and second-year class standing, ANA 530, ANA 532, or consent of course director.

OPT 830 ORAL PATHOLOGY I. (2)
This is a comprehensive lecture course on oral and paraoral diseases. The course deals mainly with the clinical aspects of oral disease, with emphasis on clinical and/or radiographic appearance, etiology, management and prognosis. Lecture, 41 hours. Prereq: OPT 820 or consent of course director.
OPT 832 ORAL PATHOLOGY II. (1)
This course teaches the dental student an effective approach to patients with oral lesions. It will stress the following: development of a reasonable differential diagnosis list, procedures to be used in obtaining a definitive diagnosis, management of the patient after a diagnosis has been made, and treatment if indicated. Attendance at one lecture and one session of Head and Neck Oncology Clinic is included in the course. Seminar, 26 hours; clinic, three hours. Prereq: OPT 830.

OPT 840 ORAL PATHOLOGY III. (1)
This is an advanced course in oral pathology in which various diseases and abnormal conditions of the head, neck, and oral cavity are presented. The pertinent information on several selected cases will be on display for a week each and then followed by a lecture/discussion period for the development of a differential diagnosis, establishment of a definitive diagnosis, and discussion of treatment and prognosis. Attendance at one lecture and one session of Head and Neck Oncology Clinic is included in the course. Lecture, 17 hours; clinic, three hours. Prereq: OPT 832.

OPT 850 ORAL PATHOLOGY ELECTIVE. (1-10)
Elective courses offered by the Department of Oral Pathology provide opportunities for further study of or experience in various aspects of oral pathology. Topics may include principles of clinical and histologic diagnosis, the management of patients with oral disease, and discussions of specific oral diseases. Hours variable, ranging from a minimum of 16 hours lecture/discussion to a maximum of 10 weeks clinical experience. May be repeated to a maximum of 10 credits. Prereq: The minimum year in dental school and any course prerequisites will be announced for each topic.

#OPT 880 CLINICAL PHOTOGRAPHY FOR DENTAL PRACTITIONERS. (1)
This course is designed to teach dental health professionals basic photographic principles and an effective technique of intraoral photography. Topics of interest include photographic equipment, film, and lighting and exposure techniques. The effects of alterations in shutter speed, aperture and lens focal length will be stressed. A step-by-step procedure for dental clinical photography will be presented. Note: scheduling of this course will not interfere with regularly scheduled class/clinic time. Prereq: 4th year standing in the College of Dentistry.

OR Operations Research

OR 515 MATHEMATICAL PROGRAMMING AND EXTENSIONS. (3)
Mathematical and computational aspects of linear programming, large scale structures, quadratic programming, complementary pivoting, introduction to nonlinear programming. Applications to engineering and economics. Additional topics selected in geometric programming, stochastic programming. Prereq: A course in linear algebra or consent of instructor.

OR 524 PROBABILITY. (3)
Sample space, random variables, distribution functions, conditional probability and independence, expectation, combinatorial analysis, generating functions, convergence of random variables, characteristic functions, laws of large numbers, central limit theorems and its applications. Prereq: MA 432G or 471G or consent of instructor. (Same as STA 524.)

OR 525 INTRODUCTORY STATISTICAL INFERENCE. (3)
Simple random sampling, statistics and their sampling distributions, sampling distributions for normal populations; concepts of loss and risk functions. Bayes and minimax inference procedures; point and interval estimation; hypothesis testing; introduction to nonparametric tests; regression and correlation. Prereq: STA 320 or STA 524 or STA 424G. (Same as STA 525.)

OR 616 NUMERICAL TECHNIQUES FOR NONLINEAR OPTIMIZATION. (3)

OR 617 MARKOVIAN DECISION PROBLEMS. (3)

OR OPT 618 COMBINATORICS AND NETWORK. (3)
Graphs, networks, min-flow-max cut theorem and applications; transportation problems, shortest route algorithms, critical path analysis, multi-commodity networks, covering and packing problems; integer programming, branch-and-bounding techniques, cutting plane algorithms, computational complexity. Prereq: MA 515; can be taken concurrently with MA 515.

OR 619 PROBLEMS SEMINAR IN OPERATIONS RESEARCH. (3)
In this course the student is exposed to the art of applying the tools of operations research to "real world" problems. The seminar is generally conducted by a group of faculty members from the various disciplines to which operations research is applicable. Prereq: MA 617 and STA 525 or consent of instructor.

OR 624 APPLIED STOCHASTIC PROCESSES. (3)
Definition and classification of stochastic processes, renewal theory and applications, Markov chains, continuous time Markov chains, queueing theory, epidemic processes, Gaussian processes. Prereq: STA 524 or consent of instructor. (Same as STA 624.)

OR 674 HEURISTIC ALGORITHMS. (3)
Advanced topics in algorithm design emphasizing the application of various heuristics. The course will treat active research topics. These topics include graph algorithms, parallel algorithms, randomization, linear and integer programming, VLSI and geometry problems. Prereq: CS 575 and CS 580.

ORTH Orthodontics

ORTH 610 CRANIO-FACIAL FORM. (3)
Applied radiographic anatomy for graduate students in dentistry. Prereq: Admission to graduate dental programs; D.D.S. or D.M.D. degree.

ORTH 620 ORAL-PHARYNGEAL FUNCTION, PART I. (2)
Basic and applied physiology for graduate students in dentistry. Class, two and one-half hours. Prereq: Admission to a graduate program of the College of Dentistry; D.D.S. or D.M.D. degree.

ORTH 621 ORAL-PHARYNGEAL FUNCTION, PART II. (2)
A continuation of ORT 620, emphasizing speech physiology and language development. Lecture, two and one-half hours. Prereq: Admission to a graduate program of the College of Dentistry; D.D.S. or D.M.D. degree.

ORTH 660 ORTHODONTIC DIAGNOSIS. (1)
This course emphasizes the principles of data collection and diagnosis for planning comprehensive orthodontic treatment. Lecture, 24 hours. May be repeated to a maximum of two credits. Prereq: Admission to a postdoctoral program of the College of Dentistry.

ORTH 661 ORTHODONTIC SEMINAR-CLINIC. (3)
Seminar, laboratory and clinical instruction in orthodontic theory and practice. Lecture, three hours; laboratory, 15 hours. May be repeated to a maximum of 12 credits. Prereq: ORT 660.

ORTH 662 ORTHODONTIC TECHNIQUE. (3)
In this technique course, management of orthodontic apparatuses, sequence of treatment, and mechanics in comprehensive orthodontic therapy are covered. Laboratory, 100 hours. May be repeated to a maximum of six credits. Prereq: Admission to a postdoctoral program of the College of Dentistry.

ORTH 664 BIOMECHANICS. (1)
Biological reactions of the periodontal and craniofacial structures during orthodontic treatment, as well as theoretical mechanical principles of tooth movement are taught in this course. Lecture, 22 hours. May be repeated to a maximum of two credits. Prereq: Admission to a postdoctoral program in the College of Dentistry.

ORTH 710 MANAGEMENT OF COMPLEX OROFACIAL DEFORMITIES. (1)
Seminar discussions of techniques in orthodontic problem solving and planning treatment for patients with orofacial deformities refractory to either orthodontic therapy or oral surgery but which are resolvable by utilizing combinations of orthodontic and oral surgical therapies. Lecture, one hour per week; laboratory, one hour per week. Prereq: ORT 660 or permission of instructor.

ORTH 748 MASTER’S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.
ORT 768 RESIDENCE CREDIT FOR MASTER’S DEGREE.  (1-6)
Maximum of nine weeks residence credit. Prereq: Admission to the orthodontic graduate program of the College of Dentistry or consent of instructor.

ORT 770 ORTHODONTIC SEMINAR.  (1)
Seminar in orthodontic theory and practice for advanced graduate and postdoctoral students in orthodontics. May be repeated to a maximum of six credits. Lecture, three hours. Prereq: Admission to the Orthodontics Graduate Program and consent of course director.

ORT 790 RESEARCH IN ORTHODONTICS.  (1-5)
Research in orthodontics. May be repeated to a maximum of five credits. Prereq: Admission to the orthodontic graduate program of the College of Dentistry; special permission.

ORT 822 ORTHODONTICS I.  (3)
This course concerns the development of knowledge and skills needed to conduct a thorough orthodontic diagnosis and to plan orthodontic therapy. Lectures are oriented to data base collection, analysis and interpretation. Laboratory exercises provide opportunity to develop skills in analysis of facial proportions, analysis of diagnostic dental casts, cephalometric tracings, formulating a prioritized problem list and development of long-term and short-term treatment goals. A clinical experience is provided to collect records in a child patient. Seminar discussions are provided to discuss and review the data base. Lecture, 15 hours; laboratory, 12 hours; seminar, 22 hours. Prereq: Second year standing in College of Dentistry, CDS 812.

ORT 830 ORTHODONTICS II.  (2)
This course is concerned with the teaching of pre-clinical orthodontic technique and theory. The course is designed to give the student a basic understanding of the skills required to fabricate fixed and removable appliances that are typically indicated for limited tooth movement and retention in interceptive orthodontics and adjunctive orthodontic treatment in a general practice setting. The role of the general dentist in the management of their patients’ orthodontic needs will be delineated. Special emphasis will be placed on coordination of treatment between the specialist and general practitioner and maintenance of occlusion over the life span of the patient. Lecture; 14 hours; laboratory, 18 hours. Prereq: CDS 812, ORT 822.

ORT 841 CLINICAL ORTHODONTICS.  (1)
This clinical course requires the students to analyze and diagnose the present and developing occlusal disharmonies in their assigned patients and to provide therapy for those patients who need tooth movements judged to be within the scope of the general practice of dentistry. Clinic, 30 hours. Prereq: ORT 820 and consent of course director.

ORT 850 ORTHODONTIC ELECTIVE.  (1-10)
Elective courses offered by the Department of Orthodontics provide opportunities for further study of or experience in various aspects of orthodontics. Topics may include principles of comprehensive orthodontic treatment, types of orthodontic appliances, and methods of correcting facial skeletal problems. Hours variable, ranging from a minimum of 16 hours lecture/discussion to a maximum of 10 weeks clinical experience. May be repeated to a maximum of 10 credits. Prereq: The minimum year in dental school and any course prerequisites will be announced for each topic.