

# UNLV School of Dental Medicine Advanced Education in Orthodontics and Dentofacial Orthopedics Course Descriptions, updated Dec. 2012

## Year 1 Summer Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8001</b>	<i>Intro to Orthodontics</i>	<ol style="list-style-type: none"> <li>1. Introduce the resident to clinical software and its application (IT orientation and Axium training)</li> <li>2. Introduce the resident to the process of taking and coordinating orthodontic records</li> <li>3. Introduce the resident to wire bending and wire sequencing learning 1st, 2nd, and 3rd order bends</li> <li>4. Introduce the resident to cephalometrics and biomechanics (Typodont Course)</li> </ol>	Admission to Orthodontic Residency program at UNLV SDM first year or with approval of the course director.
<b>ORTH 8011</b>	<i>Cephometrics</i>	<ol style="list-style-type: none"> <li>1. To discuss the history, development and use of Cephalometrics in clinical orthodontic practice.</li> <li>2. Identify anatomic and Cephalometric landmarks.</li> <li>3. To introduce and discuss the basic principles of Cephalometric analysis.</li> <li>4. To enable the resident to recognize and describe developing as well as established skeletal Class I, II &amp; III discrepancies.</li> <li>5. To discuss horizontal and vertical growth patterns; define terminology such as skeletal open bite and overclosure.</li> <li>6. To compare and contrast various Cephalometric analyses utilized in contemporary orthodontics.</li> <li>7. To develop Cephalometric "literacy".</li> </ol>	Admission to Orthodontic Residency program at UNLV SDM first year or with approval of the course director.
<b>ORTH 8201</b>	<i>Clinical Orthodontics</i>	This is the first of eight trimesters of clinical sessions during which the resident will screen, diagnose, treatment plan and treat and/or manage the orthodontic malocclusions of their patients, under supervision of the attending orthodontic clinical faculty. Clinical attire, policies, procedures and professionalism will be discussed. In these early clinical sessions, faculty will provide close supervision in the treatment planning and starting of clinical applications.	Admission to Orthodontic Residency program at UNLV SDM first year or with approval of the course director.

## Year 1 Fall Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8102</b>	<i>Clinical Specialty Seminar</i>	<ol style="list-style-type: none"> <li>1. Develop appropriate goals for a patient consistent with achieving and maintaining long-term health, stability and facial esthetics.</li> <li>2. Develop a prioritized problem list for the orthodontic patient as dictated by the stated goals.</li> <li>3. Generate a treatment plan for the orthodontic patient.</li> <li>4. Develop an appreciation for the history of clinical orthodontics and its influence on our current standard of care.</li> <li>5. Develop an understanding of the important scientific issues such as epidemiology and evidence based decision making that are essential in orthodontic diagnosis and treatment planning.</li> </ol>	Successful completion of the 1 <sup>st</sup> year summer semester courses.
<b>ORTH 8202</b>	<i>Clinical Orthodontics</i>	This is the second of 8 semesters of clinical sessions during which the resident will screen, diagnose, treatment plan and treat and/or manage the orthodontic malocclusions of their patients, under supervision of the attending orthodontic clinical faculty. Types of cases will include: Class I, II and III malocclusions; craniofacial/cleft cases; interdisciplinary cases; orthognatic surgery cases; early treatment, dentofacial orthopedics and cases with periodontal and TMD components. In this course, faculty will not need to provide as much supervision in the treatment planning and clinical applications, while the resident will learn to work more independently.	Successful completion of ORTH 8201.
<b>ORTH 8402</b>	<i>Biomedical Science Core I</i>	<ol style="list-style-type: none"> <li>1. Integrate the biomedical concepts of dental practice as it relates to orthodontics</li> <li>2. Enhance problem-solving and critical thinking skills in orthodontics</li> <li>3. Enhance clinical decision-making skills</li> <li>4. Discuss pertinent normal and abnormal biomedical dental conditions related to orthodontics</li> <li>5. Discuss pertinent biomedical relative to patient care delivery</li> </ol>	Successful completion of the 1 <sup>st</sup> year summer semester courses.

		6. Discuss contemporary issues relative to the biomedical basis of orthodontics	
<b>ORTH 8512</b>	<i>Biomechanics Principles</i>	<ol style="list-style-type: none"> <li>1. Discuss basic biomechanical principles used in orthodontic treatment</li> <li>2. Describe various differential force systems, identify and calculate vectors and moments involved in tooth movement</li> <li>3. Differentiate between various orthodontic treatment techniques and appliance systems</li> <li>4. Identify Andrews' Keys to occlusion</li> <li>5. Understand anchorage preparation, its importance, types and applicability in orthodontics</li> <li>6. Describe management of vertical problems i.e. open/deep bites malocclusions</li> <li>7. Identify and understand manipulation of extraoral appliances</li> <li>8. Describe management of AP problems i.e. extraction space closure, elastics</li> <li>9. Identify problems and techniques used in finishing</li> </ol>	Successful completion of the 1 <sup>st</sup> year summer semester courses.
<b>PGDE 8516</b>	<i>Advanced Clinical Science: Radiology</i>	This is primarily a semester design course with orientation lectures as needed to guide the postgraduate student's review of the literature as it pertains to orthodontic imaging. Focus will be upon comparisons and treatment outcomes between traditional imaging methods and cone beam 3D computed tomography.	Successful completion of the 1 <sup>st</sup> year summer semester courses.
<b>ORTH 8602</b>	<i>Diagnosis, Treatment Planning and Case Presentations</i>	This course is designed to present a comprehensive in depth study of orthodontic diagnosis, treatment planning and ABO case reports of patients treated by orthodontic residents in our clinic. It will be conducted in a seminar format where residents will present their cases to fellow residents and faculty. Residents will be expected to work more independently with less faculty input.	Successful completion of the 1 <sup>st</sup> year summer semester courses.
<b>PGDE 8701</b>	<i>Literature Review: Research</i>	<ol style="list-style-type: none"> <li>1. Demonstrate ability to correctly utilize UNLV library services, and conduct searches on the WWW (Internet).</li> <li>2. Demonstrate ability to search for literature, using key words, descriptors, identifiers, and thesauruses.</li> <li>3. Organize the research literature using bibliographic software (e.g., ref works, etc).</li> <li>4. Evaluate the reliability and validity of the literature.</li> <li>5. Synthesize and submit literature review results as part of their proposal for research project.</li> </ol>	Successful completion of the 1 <sup>st</sup> year summer semester courses.

## Year 1 Spring Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8103</b>	<i>Clinical Specialty Seminar</i>	<p>This is the second of three seminars that utilize a case-based, integrative approach to prepare orthodontic residents for professional practice. A diagonal curricular design is used throughout this series with faculty initially facilitating and modeling the majority of the diagnostic and treatment planning activities. Socratic questioning by faculty and residents is the primary instructional method used in this fourth seminar. As residents move from novice to competent to proficient across the 30 months of their program, they are expected to become more responsible for their own learning.</p> <p>The design of this seminar provides the resident with a decreasing level of structure and guidance as they move from novice to competency status in some areas and from competent to proficient in other areas of orthodontic knowledge and skill. The structure is systematically withdrawn as residents demonstrate deeper levels of understanding and application of concepts. This course provides orthodontic residents a more advanced level of material regarding orthodontic diagnosis, treatment planning and treatment. The course is offered in a combination of seminar and lectures. More advanced information is presented and discussed concerning:</p> <ul style="list-style-type: none"> <li>• Treatment planning theory</li> <li>• Sequencing of treatment</li> <li>• Cephalometric data and analysis</li> <li>• Treatment process evaluation</li> <li>• Treatment alternatives</li> </ul>	Successful completion of ORTH 8102.

		<ul style="list-style-type: none"> <li>Advanced Biomechanics</li> </ul> <p>The faculty provides expert opinion and challenges the residents on their treatment selections and conclusions. Additionally, current treatment controversies and applications may be discussed and evaluated.</p>	
<b>ORTH 8203</b>	<i>Clinical Orthodontics</i>	<p>During this third trimester all patient charts are audited to check for completion and accuracy. This course provides Orthodontics Residents a more advanced level of material regarding orthodontic diagnosis, treatment planning and treatment. These clinical sessions are used to further evaluate residents diagnostic and treatment planning skills as well as their execution of the treatment plan. The properties of wires, adhesives, elastics; etc. are integrated with the clinical treatment. The resident learns how the choice of these materials can influence the progress of treatment and the final result. Progress is measured by interaction with attending faculty. The residents will screen, diagnose, treatment plan and treat and/or manage the orthodontic malocclusions of their patients, under the supervision of the attending orthodontic clinical faculty. Overall progress is evaluated twice per year by all clinical faculty in a standard written format. Actual progress is compared to pretreatment projections. If progress is not on schedule, causes and solutions are discussed and changes are implemented as needed.</p>	Successful completion of ORTH 8202.
<b>PGDE 8312</b>	<i>Independent Research I</i>	<ol style="list-style-type: none"> <li>Understand the scientific method as it applies to critical review of the literature and research design</li> <li>Understand literature search techniques and strategies as well as the different levels of research publications ranging from opinions, case reports, blinded studies, prospective research, randomized controlled clinical studies to systematic reviews.</li> <li>Complete an independent research project to include an abstract, proposal, data collection, analysis and write up for submission to an appropriate peer-reviewed scientific journal</li> </ol>	Successful completion of the 1 <sup>st</sup> year fall semester courses.
<b>PGDE 8403</b>	<i>Biomedical Science Core II</i>	<ol style="list-style-type: none"> <li>Integrate the biomedical concepts of dental practice as it relates to orthodontics</li> <li>Enhance problem-solving and critical thinking skills in orthodontics</li> <li>Enhance clinical decision-making skills</li> <li>Discuss pertinent normal and abnormal biomedical dental conditions related to orthodontics</li> <li>Discuss pertinent biomedical relative to patient care delivery</li> <li>Discuss contemporary issues relative to the biomedical basis of orthodontics</li> </ol>	Successful completion of PGDE 8402.
<b>PGDE 8503</b>	<i>Interdisciplinary Growth and Development</i>	<p>Interdisciplinary Treatment: Integrating Orthodontics with Periodontics, Endodontics, Pedodontics, and Restorative Dentistry.</p>	Successful completion of the 1 <sup>st</sup> year fall semester courses.
<b>ORTH 8513</b>	<i>Growth and Development</i>	<ol style="list-style-type: none"> <li>Discuss basic concepts and theories of growth</li> <li>Describe methods to measure facial growth</li> <li>Discuss growth of cranial base</li> <li>Understand different concepts in the development of the nasomaxillary complex</li> <li>Describe the development of the mandible</li> <li>Describe changes in soft tissue that occur during growth</li> <li>Describe stages in dental arch development with emphasis on eruption and exfoliation of teeth and</li> <li>Clinical orthodontic applications and significance of growth in treatment</li> </ol>	Successful completion of the 1 <sup>st</sup> year fall semester courses.
<b>ORTH 8603</b>	<i>Diagnosis, Treatment Planning and Case Presentations</i>	<p>This course is designed to continue to present a comprehensive in depth study of orthodontic diagnosis, Treatment planning and ABO case reports of patients treated by orthodontic residents in our clinic. It will be conducted in a seminar format where residents will present their cases to fellow residents and faculty. Residents will be expected to work more independently with increasingly less faculty input.</p>	Successful completion of ORTH 8602.
<b>PGDE 8702</b>	<i>Biostatistics and Epidemiology</i>	<ol style="list-style-type: none"> <li>Integrate into research projects graphical and statistical techniques commonly used in peer-reviewed scientific literature.</li> <li>Understand the fundamental and advanced concepts of epidemiology that will build a critical foundation for epidemiological methodology in research.</li> <li>Integrate into research projects epidemiological techniques commonly used in peer-reviewed scientific literature.</li> </ol>	Successful completion of 1 <sup>st</sup> year fall semester.

## Year 2 Summer Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8104</b>	<i>Clinical Specialty Seminar III</i>	<p>This is the final seminar that utilize a case-based, integrative approach to prepare orthodontic residents for professional practice. A diagonal curricular design is used throughout this series with faculty initially facilitating and modeling the majority of the diagnostic and treatment planning activities. Socratic questioning by faculty and residents is the primary instructional method used in this fourth seminar. As residents move from novice to competent to proficient across the 30 months of their program, they are expected to become more responsible for their own learning.</p> <p>The design of this seminar provides the resident with a decreasing level of structure and guidance as they move from novice to competency status in some areas and from competent to proficient in other areas of orthodontic knowledge and skill. The structure is systematically withdrawn as residents demonstrate deeper levels of understanding and application of concepts. This course provides orthodontic residents a more advanced level of material regarding orthodontic diagnosis, treatment planning and treatment. The course is offered in a combination of seminar and lectures. More advanced information is presented and discussed concerning:</p> <ul style="list-style-type: none"> <li>• Treatment planning theory</li> <li>• Sequencing of treatment</li> <li>• Cephalometric data and analysis</li> <li>• Treatment process evaluation</li> <li>• Treatment alternatives</li> <li>• Advanced Biomechanics</li> </ul> <p>The faculty provides expert opinion and challenges the residents on their treatment selections and conclusions. Additionally, current treatment controversies and applications may be discussed and evaluated.</p>	Successful completion of ORTH 8103
<b>ORTH 8204</b>	<i>Clinical Orthodontics</i>	<p>This fourth trimester provides Orthodontics Residents a more advanced level of material regarding orthodontic diagnosis, treatment planning and treatment. These clinical sessions are used to further evaluate residents diagnostic and treatment planning skills as well as their execution of the treatment plan. Progress is measured by interaction with attending faculty. The residents will screen, diagnose, treatment plan and treat and/or manage the orthodontic malocclusions of their patients, under the supervision of the attending orthodontic clinical faculty. Overall progress is evaluated twice per year by all clinical faculty in a standard written format. Actual progress is compared to pretreatment projections. If progress is not on schedule, causes and solutions are discussed and changes are implemented as needed. At this point, residents will begin receiving transfer cases from the graduating residents. They will familiarize themselves with the patient's treatment and project what is necessary to complete the cases.</p>	Successful completion of ORTH 8203
<b>PGDE 8313</b>	<i>Independent Research II</i>	<ol style="list-style-type: none"> <li>1. Understand the scientific method as it applies to critical review of the literature and research design</li> <li>2. Understand literature search techniques and strategies as well as the different levels of research publications ranging from opinions, case reports, blinded studies, prospective research, randomized controlled clinical studies to systematic reviews.</li> <li>3. Complete an independent research project to include an abstract, proposal, data collection, analysis and write up for submission to an appropriate peer-reviewed scientific journal</li> </ol>	Successful completion of PGDE 8312
<b>ORTH 8910</b>	<i>Craniofacial Growth and Development</i>	<p>The material presented is a comprehensive introduction of the diagnostic and treatment planning principles of an interdisciplinary team approach to cleft lip and palate and craniofacial anomalies. The objectives of this course are to provide a sound basis for the clinical examination, diagnosis and interactive team management of patients with severe malocclusion associated with birth defects and craniofacial anomalies.</p> <p>When the student completes this course, it is expected that a critical evaluation towards literature and clinical techniques will have been developed. Furthermore, the student should be able to:</p>	Successful completion of 1 <sup>st</sup> year spring semester.

		<ol style="list-style-type: none"> <li>1) Understand the etiological basis and formation of the development of cleft lip/palate.</li> <li>2) Describe and outline the rationale, timing, and appropriate surgical, restorative, and Orthodontic interventions used in repair of the cleft lip/palate.</li> <li>3) Describe the psychological and emotional impact of cleft lip/palate deformity on the children and their parents.</li> <li>4) Describe the effect of cleft lip/palate deformity on feeding and on the development of speech and the interventions associated with the correction of these problems.</li> <li>5) List potential complications (e.g., infections; repairs of fistulas) during the development of children with cleft lip/palate deformities.</li> </ol>	
<b>ORTH 8604</b>	<i>Diagnosis, Treatment Planning and Case Presentations</i>	This course is designed to continue to present a comprehensive in-depth study of orthodontic diagnosis, treatment planning and ABO case reports of patients treated by orthodontic residents in our clinic. It will be conducted in a seminar format where residents will present their cases to fellow residents and faculty. Residents will be expected to work more independently with increasingly less faculty input.	Successful completion of ORTH 8603

## Year 2 Fall Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8205</b>	<i>Clinical Orthodontics</i>	This fifth trimester provides orthodontic residents a more advanced level of material regarding orthodontic diagnosis treatment planning and treatment. These clinical sessions are used to further evaluate residents diagnostic and treatment planning skills as well as their execution of the treatment plan. Daily progress is measured by interaction with attending faculty, while overall progress is evaluated twice per year by clinical faculty in a standard written format. Residents are taught various finishing techniques and how to choose the best retention per individual cases. Actual treatment progress is compared to pretreatment projections. If progress is not on schedule, causes and solutions are discussed and changes are implemented as needed.	Successful completion of ORTH 8204
<b>PGDE 8314</b>	<i>Independent Research III</i>	<ol style="list-style-type: none"> <li>1. Understand the scientific method as it applies to critical review of the literature and research design</li> <li>2. Understand literature search techniques and strategies as well as the different levels of research publications ranging from opinions, case reports, blinded studies, prospective research, randomized controlled clinical studies to systematic reviews.</li> <li>3. Complete an independent research project to include an abstract, proposal, data collection, analysis and write up for submission to an appropriate peer-reviewed scientific journal</li> </ol>	Successful completion of PGDE 8313.
<b>PGDE 8415</b>	<i>Advanced Biomedical Science</i>	This class is designed to give residents an opportunity to examine current basic scientific literature in areas relevant to their specialty. This semester I have chosen a "journal club" format in which one or two articles will be discussed with one of the residents or the instructor presenting the article to be discussed. The topic for the semester will be dental applications of stem cells. There is a large and growing body of literature in which stem cells are being examined as sources for jaw bone reconstruction and even tooth regeneration. It is likely to be the coming technology with many orthodontic applications so a survey of relevant literature is an important topic.	Successful completion of PGDE 8403.
<b>PGDE 8515</b>	<i>Orthognathic Surgery</i>	<ol style="list-style-type: none"> <li>1. Introduce the Resident to interdisciplinary treatment</li> <li>2. Introduce the Resident to analyzing records and formulating a treatment plan for orthognathic surgery</li> <li>3. Introduce the Resident to a variety of orthognathic procedures</li> </ol>	Successful completion of 2 <sup>nd</sup> year summer semester
<b>PGDE 8517</b>	<i>Temporo-mandibular Disorders</i>	<ol style="list-style-type: none"> <li>1. Understand the Functional Anatomy and Biomechanics of the Masticatory System</li> <li>2. Understand the Functional Neuroanatomy and Physiology of the Masticatory System</li> <li>3. Discuss the Alignment and Occlusion of the Dentition</li> <li>4. Describe the Mechanics of Mandibular Movement</li> <li>5. Describe the Criteria for Optimal Functional Occlusion</li> <li>6. List the Determinants of Occlusal Morphology</li> <li>7. List the Causes of Functional Disturbances in the Masticatory System</li> <li>8. Recognize the Signs and Symptoms of Temporomandibular Disorders</li> </ol>	Successful completion of 2 <sup>nd</sup> year summer semester

		<ul style="list-style-type: none"> <li>9. Perform a History of and Examination for Temporomandibular Disorders</li> <li>10. Establish a Diagnosis of Temporomandibular Disorders</li> <li>11. Know the General Considerations in the Treatment of Temporomandibular Disorders</li> <li>12. Describe the Treatment of Masticatory Muscle Disorders</li> <li>13. Describe the Treatment of Temporomandibular Joint Disorders</li> </ul>	
<b>ORTH 8518</b>	<i>Orthodontic Materials</i>	This course is comprised of seminar discussions of materials used in the practice of orthodontics. Residents will lead the seminar discussions with recent publications pertaining to the seminar topic. The goal of the presentation should be to learn and share new information relating to the use of contemporary orthodontic materials. This course will also provide the foundation for developing a research project involving orthodontic materials.	Successful completion of 2 <sup>nd</sup> year summer semester.
<b>ORTH 8605</b>	<i>Diagnosis, Treatment Planning and Case Presentations</i>	A comprehensive in depth study, diagnosis, treatment planning and ABO case reports of patients treated by orthodontic residents in our clinic. This will be accomplished in a seminar format where residents will present their case reports to fellow residents and faculty.	Successful completion of ORTH 8604.
<b>ORTH 8803</b>	<i>ABO Literature Review/Journal Club</i>	A continuation and progressively-advanced level of analyzing and understanding literature in orthodontics. , including classification of study design, hypothesis testing, scientific writing, analysis and interpretation of data, and critical evaluation of the literature. At the conclusion of this course, residents should be able to at a more competent level: <ul style="list-style-type: none"> <li>1. Read and understand a journal article</li> <li>2. Analyze data presented</li> <li>3. Determine if the study was designed properly</li> <li>4. Evaluate and critique the results and conclusions</li> </ul>	Successful completion of 2 <sup>nd</sup> year summer semester

## Year 2 Spring Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8206</b>	<i>Clinical Orthodontics</i>	This course provides Orthodontics Residents a more advanced level of material regarding orthodontic diagnosis, treatment planning and treatment. Residents build on their previous knowledge and experience. Residents are taught various finishing techniques and how to choose the proper retention per individual cases. Actual progress is compared to pretreatment projections. If progress is not on schedule, causes and solutions are discussed and changes are implemented as needed.	Successful completion of ORTH 8205
<b>PGDE 8315</b>	<i>Independent Research IV</i>	<ul style="list-style-type: none"> <li>1. Understand the scientific method as it applies to critical review of the literature and research design</li> <li>2. Understand literature search techniques and strategies as well as the different levels of research publications ranging from opinions, case reports, blinded studies, prospective research, randomized controlled clinical studies to systematic reviews.</li> <li>3. Complete an independent research project to include an abstract, proposal, data collection, analysis and write up for submission to an appropriate peer-reviewed scientific journal</li> </ul>	Successful completion of PGDE 8314
<b>ORTH 8606</b>	<i>Diagnosis, Treatment Planning and Case Presentations</i>	A comprehensive in depth study, diagnosis, treatment planning and ABO case reports of patients treated by orthodontic residents in our clinic. This will be accomplished in a seminar format where residents will present their case reports to fellow residents and faculty.	Successful completion of ORTH 8605
<b>ORTH 8804</b>	<i>ABO Literature Review/Journal Club II</i>	A continuation and progressively-advanced level of analyzing and understanding literature in orthodontics. , including classification of study design, hypothesis testing, scientific writing, analysis and interpretation of data, and critical evaluation of the literature.	Successful completion of ORTH 8803
<b>PGDE 8715</b>	<i>Practice Management</i>	<ul style="list-style-type: none"> <li>1. Identify and discuss issues in practice management</li> <li>2. Enhance problem-solving and critical thinking skills in orthodontics</li> <li>3. Enhance clinical decision-making skills</li> <li>4. Discuss pertinent ethical issues in orthodontics</li> <li>5. Discuss pertinent issues relative to patient care delivery, communication, and practice management.</li> <li>6. Discuss contemporary issues relative to professional ethics and controversial issues.</li> </ul>	Admission to Orthodontic Residency program at UNLV SDM first year or with approval of the course director.

## Year 3 Summer Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8207 Section I</b>	<i>Clinical Orthodontics</i>	This course provides Orthodontics Residents a more advanced level of material regarding orthodontic diagnosis, treatment planning and treatment. Residents build on their previous knowledge and experience. Residents are taught various finishing techniques and how to choose the proper retention per individual cases. Actual progress is compared to pretreatment projections. If progress is not on schedule, causes and solutions are discussed and changes are implemented as needed. Residents must prepare ABO written presentations for their 6 finished cases.	Successful completion of ORTH 8206
<b>PGDE 8316 Section I</b>	<i>Independent Research</i>	<ol style="list-style-type: none"> <li>1. Understand the scientific method as it applies to critical review of the literature and research design</li> <li>2. Understand literature search techniques and strategies as well as the different levels of research publications ranging from opinions, case reports, blinded studies, prospective research, randomized controlled clinical studies to systematic reviews.</li> <li>3. Complete an independent research project to include an abstract, proposal, data collection, analysis and write up for submission to an appropriate peer-reviewed scientific journal</li> <li>4. Complete Master's Thesis</li> </ol>	Successful completion of PGDE 8315
<b>ORTH 8607 Section I</b>	<i>Diagnosis, Treatment Planning and Case Presentations</i>	A comprehensive in depth study, diagnosis, treatment planning and ABO case reports of patients treated by orthodontic residents in our clinic. This will be accomplished in a seminar format where residents will present their case reports to fellow residents and faculty.	Successful completion of ORTH 8606
<b>ORTH 8805</b>	<i>Literature Review</i>	A continuation and progressively-advanced level of analyzing and understanding literature in orthodontics including, classification of study design, hypothesis testing, scientific writing, analysis and interpretation of data, and critical evaluation of the literature.	Successful completion of 2 <sup>nd</sup> year spring semester
<b>PGDE 8901 Section I</b>	<i>Thesis</i>	This course guides students through the process of writing their proposal and thesis, following the guidelines/practices for oral biology/orthodontics.	Successful completion of 2 <sup>nd</sup> year spring semester

## Year 3 Fall Courses

Course #	Course Title	Course Description	Course Pre-requisite
<b>ORTH 8207 Section II</b>	<i>Clinical Orthodontics</i>	This course provides Orthodontics Residents a more advanced level of material regarding orthodontic diagnosis, treatment planning and treatment. Residents build on their previous knowledge and experience. Residents are taught various finishing techniques and how to choose the proper retention per individual cases. Actual progress is compared to pretreatment projections. If progress is not on schedule, causes and solutions are discussed and changes are implemented as needed. Residents must prepare ABO written presentations for their 6 finished cases.	Successful completion of ORTH 8207 Section I
<b>PGDE 8316 Section II</b>	<i>Independent Research</i>	<ol style="list-style-type: none"> <li>1. Understand the scientific method as it applies to critical review of the literature and research design</li> <li>2. Understand literature search techniques and strategies as well as the different levels of research publications ranging from opinions, case reports, blinded studies, prospective research, randomized controlled clinical studies to systematic reviews.</li> <li>3. Complete an independent research project to include an abstract, proposal, data collection, analysis and write up for submission to an appropriate peer-reviewed scientific journal</li> <li>4. Complete Master's Thesis</li> </ol>	Successful completion of PGDE 8316 Section I
<b>ORTH 8607 Section II</b>	<i>Diagnosis, Treatment Planning and Case Presentations</i>	A comprehensive in depth study, diagnosis, treatment planning and ABO case reports of patients treated by orthodontic residents in our clinic. This will be accomplished in a seminar format where residents will present their case reports to fellow residents and faculty.	Successful completion of ORTH 8607 Section I
<b>PGDE 8901 Section II</b>	<i>Thesis</i>	This course guides students through the process of writing their proposal and thesis, following the guidelines/practices for oral biology/orthodontics.	Successful completion of PGDE 8901 Section I

