# AEODO/MBA Residency Program Curriculum
## Catalog Year 2020-2021
## Class of 2023

### Academic Year (AY): 2020-21; Year 1 (R1)

| Course # | Course Title | # of Credits |
|---|---|---|
| ADE 800 | Fundamentals in Orthodontics | 2 |
| ADE 810 | Preclinical Orthodontic Simulation Laboratory | 2 |
| ADE 811 | Introduction to Clinical Orthodontics (Boot Camp) | 2 |
| ADE 812 | Diagnosis, Treatment Planning I | 2 |
| ADE 813 | Clinical Seminars I | 6 |
| ADE 814 | Clinical Orthodontics I | 20 |
| ADE 815 | Seminars in Contemporary Orthodontics I | 2 |
| ADE 816 | Biomechanics & Biomaterials I | 2 |
| ADE 817 | Classic and Current Literature Review I | 2 |
| ADE 818 | Cephalometrics I | 2 |
| ADE 828 | Functional and Orthopedic Appliances | 2 |
| ADE 910 | Introduction to Roseman, CDM & AEODO/MBA Program | 2 |
| ADE 912 | 2D and 3D Craniofacial Imaging | 2 |
| ADE 913 | Research I | 12 |
| ADE 915 | Biostatistics & Research Methodology I | 2 |
| ADE 916 | Graduate Teaching I | 1 |
| ADE 917 | Community Outreach I | 2 |
| ADE 926 | Craniofacial Growth and Development | 2 |
| ADE 930 | Functional Occlusion & Temporomandibular Joint Disorders | 2 |
| MBA 602 | Healthcare Management | 3 |
| MBA 603 | Legal Environment, Healthcare Law & Corporate Responsibility | 3 |
| MBA 605 | Human Resource Management | 3 |
| MBA 642 | Managerial Economics | 3 |
| MBA 645 | Business Ethics and Practices in Healthcare | 3 |
| MBA 650 | Managerial Accounting and Control | 3 |
| MBA 662 | Entrepreneurship Finance | 3 |
| | **Total Credits** | **90** |

# AEODO/MBA Residency Program Curriculum
## Catalog Year 2020-2021
## Class of 2023

### Academic Year (AY): 2021-22; Year 2 (R2)

| Course # | Course Title | # of Credits |
|---|---|---|
| ADE 833 | Clinical Seminars II | 8 |
| ADE 834 | Clinical Orthodontics II | 38 |
| ADE 835 | Seminars in Contemporary Orthodontics II | 2 |
| ADE 837 | Classic and Current Literature Review II | 2 |
| ADE 838 | Cephalometrics II | 2 |
| ADE 850 | ABO Written Examination | 2 |
| ADE 932 | Biomedical Sciences | 4 |
| ADE 933 | Research II | 14 |
| ADE 935 | Biostatistics & Research Methodology II | 2 |
| ADE 936 | Graduate Teaching II | 1 |
| ADE 937 | Community Outreach II | 2 |
| MBA 610 | Organizational Behaviour & Leadership | 3 |
| MBA 620 | Marketing | 3 |
| MBA 630 | Healthcare Operations Management | 3 |
| MBA 670 | Strategic Management | 3 |
| MBA 690 | Entrepreneurship (Capstone) | 3 |
| MBA 750 | Practice Management (Dental Only) | 3 |
| | **Total Credits** | **95** |

# AEODO/MBA Residency Program Curriculum
## Catalog Year 2020-2021
## Class of 2023

### Academic Year (AY): 2022-23; Year 3 (R3)

| Course # | Course Title | # of Credits |
|---|---|---|
| ADE 852 | Diagnosis, Treatment Planning III | 2 |
| ADE 853 | Clinical Seminars III | 10 |
| ADE 854 | Clinical Orthodontics III | 40 |
| ADE 855 | Seminars in Contemporary Orthodontics III | 2 |
| ADE 860 | ABO Clinical Examination Advanced Course | 2 |
| ADE 940 | 3D Printing, Lasers, and Aligners | 3 |
| ADE 951 | Orthognathic Surgery II | 2 |
| ADE 953 | Research III | 20 |
| ADE 954 | Interdisciplinary II | 2 |
| ADE 956 | Graduate Teaching III | 1 |
| ADE 957 | Community Outreach III | 2 |
| ADE 958 | Management and Treatment of Craniofacial Anomalies II | 2 |
| ADE 959 | Orthodontic Appliance Design & Fabrication II | 2 |
| | **Total Credits** | **90** |

### Summary of Credits for AEODO/MBA Residency Program

| Year | Credits |
|---|---|
| Year 1 (R1) | 90 |
| Year 2 (R2) | 95 |
| Year 3 (R3) | 90 |
| **Total Credits** | **275** |

*__Please note__: 1 credit generally means 15-25 contact hours.
Sequence of courses subject to change.

# AEODO/MBA Residency Program Curriculum
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## AEODO Course Descriptions – Complete List

**ADE 800: Fundamentals in Orthodontics**
The focus of this block is to provide the first-year orthodontic resident with an overall understanding of the orthodontic discipline from diagnosis and treatment planning, to treatment mechanics, assessment of treatment outcome and orthodontic retention by first understanding the historical development of this profession in the context of current technological advances. Concepts and theories in growth and development of the dentofacial complex will be reviewed and will served as foundational knowledge in the discussion of treatment timing of various skeletal abnormalities and dental malocclusions as supported by evidence from peer-reviewed publications. Clinical and radiographic evaluation of the orthodontic problem will be extensively discussed. Cephalometric analysis using skeletal landmarks and planes will be performed; emphasis will be placed on the Steiner Analysis. Dental malocclusion, Angle's classification, mixed dentition analysis and space management in the mixed dentition will be reviewed. The biology of tooth movement including force systems and anchorage control will be introduced; these biomechanic concepts will be applied in the discussion of how removable, fixed appliances, clear aligner therapy, orthodontic wires and accessories elicit tooth movement. Orthodontic retention and assessment of treatment outcome will be detailed.

**ADE 810: Preclinical Orthodontic Simulation Laboratory**
This preparatory course will introduce several fundamental topics to the residents including but not limited to: history of modern orthodontics; biology of tooth movement; Edgewise bracket and appliance; archwire concepts; bracket and appliance concepts; applied biomechanics and mechanical concepts; auxiliaries; mechanical and lab techniques; typodont treatment; orthodontic dictionary and orthodontic abbreviation dictionary.

**ADE 811: Introduction to Clinical Orthodontics (Boot Camp)**
This extensive and in-depth course will serve as an introduction and overview of the specialty of orthodontics and dentofacial orthopedics, and prepares the orthodontic residents for an advanced education in this dental specialty.

**ADE 812 & 852: Diagnosis, Treatment Planning (I & III)**
These sessions provide a comprehensive and in-depth study of orthodontic diagnosis, treatment planning and American Board of Orthodontics (ABO) case reports of patients treated by orthodontic residents in the clinic. The seminar format of this course will allow interaction and discussion between all faculty and residents during the case presentations.

**ADE 813, 833 & 853: Clinical Seminars (I, II & III)**
Clinical Seminars involve case presentations during which residents are evaluated on their skills and knowledge in Diagnosis, Treatment Planning, and effective management of patient care as well as evaluation of quality of treatment outcomes. These clinical seminars will precede all clinical sessions, allowing the faculty an opportunity to preview the daily clinic schedule and prepare the residents for the procedures to be performed during that particular clinic session.

**ADE 814, 834 & 854: Clinical Orthodontics (I, II & III)**
These clinical sessions will allow the residents, with direct supervision from attending orthodontic faculty, to screen, diagnose, treatment plan, treat and/or manage the varied orthodontic malocclusions of their patients. Different techniques and appliances will be utilized by faculty, allowing the residents an expansive and comprehensive education in orthodontics.

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**ADE 815, 835 & 855: Seminars in Contemporary Orthodontics (I, II & III)**
The residents will be required to attend periodic seminars in which the latest ideas, techniques and armamentarium in orthodontics are presented by experts in their fields. These seminars will be instrumental in reaching our goal of providing an innovative, novel, and state of the art education to our orthodontic residents.

**ADE 816: Biomechanics & Biomaterials I**
This block provides lectures in fundamentals of physics and engineering and their application in orthodontic techniques. A thorough presentation of the biology of tooth movement is presented, as well as mechanotherapy in various orthodontic techniques and critical evaluation of biomechanical concepts and materials leading to efficient tooth movement.

**ADE 817 & 837: Classic and Current Literature Review (I & II)**
This course will encourage the residents to critically review, understand and analyze classic and current literature in orthodontics, including classification of study design, hypothesis testing, scientific writing, analysis and interpretation of data, and orthodontics and craniofacial biology throughout their education. This course will be instrumental in preparation of the residents for the American Board of Orthodontics certification examination.

**ADE 818 & 838: Cephalometrics (I & II)**
This is a course aimed at a thorough understanding of the craniofacial radiographic techniques, with emphasis on historical as well as contemporary uses of 2D and 3D cephalometric radiography. This course will introduce the residents to the clinical uses of cephalometrics for orthodontic diagnosis and treatment planning using the latest available technology.

**ADE 828: Functional and Orthopedic Appliances**
This informative course will familiarize the residents with the design, theoretical indications, and clinical application of various craniofacial orthopedic devices, including but not limited to: various types of headgear appliances, chin cups and numerous functional appliance. The residents will also review pertinent literature to learn the history and current theories of use for such devices.

**ADE 850: American Board of Orthodontics Written Examination**
This block is a two-year long, continuous course which consists of the residents' preparation for the American Board of Orthodontics Written Examination and culminates in the examination in the early summer of their second year of education. Residents must successfully complete this examination in order to pass the course and subsequently be eligible for graduation.

**ADE 860: American Board of Orthodontics Clinical Examination Advanced Course**
This innovative and contemporary block will expose the residents to the latest tools and technology in tooth movement. Residents will learn the theoretical and conceptual facts as well as clinical and real-life utilization of TAD's in routine orthodontic treatment for increased efficiency and superior biomechanics in orthodontics.

**ADE 910: Introduction to Roseman, CDM and the AEODO/MBA Program**
All residents will spend time in a block dedicated to introducing participants to imperative and pertinent topics such as University policies, student handbook, Occupational Safety and Health Administration (OSHA) regulations, software orientation and application, Medicaid and insurance billing to prepare them for clinical experiences. Also, this course will provide the residents with a review of diagnosis and management of common medical emergencies, as well as a training session in cardiopulmonary resuscitation, with practical

demonstrations and examinations which will lead to certification in basic CPR.

**ADE 912: 2D and 3D Craniofacial Imaging**
This block will familiarize the residents with state of the art 2D and 3D techniques in radiology and imaging such as digital imaging and cone beam computerized tomography, and their utilization in diagnosis and treatment of patients in any area of oral health.

**ADE 913, 933 & 953: Research (I, II & III)**
Residents will work with faculty mentors in carrying out meaningful graduate level research projects. The projects will involve critical components of literature review, hypothesis generation, defend their project; conduct the study; analysis and interpretation of data and summarizing the project in the form of a final research document. Residents' progress will be monitored routinely, and the research project is expected to lead to a scientific paper submitted for publication in a peer reviewed journal.

**ADE 915 & 935: Biostatistics & Research Methodology (I & II)**
This course is comprised of a study of basics of biostatistics and epidemiology, including clinical trials. Details on research methodology will equip the residents to plan & execute their research project and effectively analyze their data. Training on SPSS & Excel will be provided. Literature evaluation and assessment of statistical and clinical significance will empower them for making an evidence-based decision on application of research results in their clinical practice.

**ADE 916, 936, 956: Graduate Teaching (I, II, & III)**
Under supervision and guidance of faculty, residents will apply much of what they have learned in their first year of education to collectively design and teach a formal class to first year residents. This block will also teach the residents some of the fundamentals of good teaching; e.g., writing clear outcome statements, designing learning experiences, and assessment essentials.

**ADE 917, 937 & 957: Community Outreach (I, II & III)**
Residents will be required to provide various types of scheduled community service throughout their education. This will assist the residents in gaining insight to the oral health needs of various populations in Southern Nevada and surrounding regions.

**ADE 926: Craniofacial Growth and Development**
This course block is will allow the residents to explore the basic qualitative and quantitative changes that take place during pre- and postnatal craniofacial growth and development. Included in this block will also be lectures on childhood and adolescent growth, development of the dentition, hereditary and environmental influences on growth and possibility of prediction of facial growth.

**ADE 930: Functional Occlusion and Temporomandibular Joint Disorders**
This important course will provide the residents an overview of detailed anatomy of the joint as well as specific pathologies and modes of treatment and management for specific disorder or pathologies.

**ADE 932: Biomedical Sciences**
This block will reacquaint the residents with fundamental topics in biomedical sciences. Topics will include:

- Head and Neck Anatomy
- Cell Biophysiology
- Oral Pathology

- Bone Biology and Histology
- Oral Cells and Tissues
- Oral Microbiology and Immunology
- Oral and Maxillofacial Infectious and Inflammatory Diseases
- Neoplasia and Diseases of Systems
- Pain Management

Emphasis in this block is placed on diseases of the oral cavity, with a thorough review of the genetic, clinical and radiographic signs and markers for each disease. Residents will be expected to fully comprehend the most common pathologies encountered by oral health care providers, including diagnosis and treatment options for such pathologies.

**ADE 954: Interdisciplinary Dentistry II**
Experts in various fields of general and specialty dentistry will provide residents with an overview of latest techniques and concepts as they relate clinical treatment of patients needing multidisciplinary care. Included will be diagnosis, treatment and management of patients, as well as the specific role of the different specialists in overall care of patient.

**ADE 940 - 3D Printing, Lasers, and Aligners**
This informative block will familiarize the residents with the design, theoretical dictations, and clinical application of clear aligner devices for orthodontic treatment in children and adults. The course will also review 3D printing technology via guest lectures and review of literature. Another section will deal with theory and hands-on instruction in the use of Lasers in Clinical Orthodontic practice. The residents will also review pertinent literature related to the above topics as assigned by the instructors.

**ADE 951: Orthognathic Surgery II**
Fundamental and advanced concepts of treatment planning and management of orthognathic surgery cases are covered during this block. Residents are exposed to virtual treatment planning (VTO) of various skeletal discrepancies. Team assignments involving multiple residents working together on orthognathic surgery cases will aid in a strong foundation in managing more complex clinical cases.

**ADE 958: Management and Treatment of Craniofacial Anomalies II**
This block will provide a thorough review of various recognized craniofacial anomalies, with emphasis placed on etiology, morphology, development and clinical management for each anomaly. The residents will also be introduced to the importance of the "team concept" and the involvement of many medical and dental specialists in the interdisciplinary management and treatment of such complex cases. The block will consist of lectures and case presentation seminars related to the various problems encountered in the management and treatment of patients with cleft palate. Emphasis is placed on the importance of long-term, interdisciplinary management and rehabilitation of these patients in consultation with other medical and dental health care providers. Issues such as epidemiology and etiology of the congenital anomaly, psychology, speech pathology, timing of surgery and various stages of treatment will be addressed, as will special problems one might encounter with this particular group of patients.

**ADE 959: Orthodontic Appliance Design & Fabrication II**
This block series will critically review the variety of fixed and removable appliances that are available for use in orthodontic, pedodontic, TMD, OSA, and orthognathic surgery procedures, and the purpose, indications, and use of each appliance. Residents will fabricate several appliances and complete a quality assessment on each aspect of fabrication. Skill in activation, adjustment, and retention of appliances will be developed, in

addition to proficiency in fitting bands, taking impressions, and wire bending.

***Refer to the 2020-21 Student Catalog (Pages 51-55) for MBA Course Descriptions.**