

DENTAL - GRADUATE ADVANCED DENTAL STUDIES (GADS)

GADS 5001 Biostatistics

Intro to Biostatistics

0.75-2.25 Credit Hours

GADS 5002 Biostatistics

The course will provide a summary of the main statistical concepts.

Some of the topics will include data displays, summary statistics, probability distributions and expectation, statistical inference procedures for univariate and bivariate data, linear regression models, and analysis of variance.

1-2.5 Credit Hours

GADS 5010 Ethics, Professionalism and Jurisprudence

The program includes the core basic science courses, designed to encompass the the various disciplines basic to advanced studies in the science and practice of dentistry. They are designed to expose students to modern concepts in the areas covered with the objective of updating and expanding upon their predoctoral knowledge. Practice Management Lectures and clinical experiences provide students with foundation knowledge regarding the policies and procedure governing practice. In the workshop portion of the course, participants will assess their beliefs and awareness around cross cultural communication and diversity and inclusiveness. Through lecture, group participation, skill practice, role-play, case studies, and coaching they learn to advance their skill levels and take communication to the next level. Participants will also be recorded at the opening and conclusion of the to assess skill development. This course is the didactic course for the MADS core curriculum.

Fall

1-4 Credit Hours

GADS 5011 Systematic Reviews

The course introduces methods to perform systematic reviews and meta-analysis of clinical trials.

0.5-3 Credit Hours

GADS 5012 Systematic Review

An introduction to Evidence-Based Dentistry (EBD) Steps and description of the EBD process, benefits and challenges for the dental profession. Review EBD publications and how commentaries can be useful for understanding study methodology. Discuss the overall architecture of The Cochrane Library, introduction to formulation of the research question (PICO). Interactive discussion for selecting possible search terms in preparation for the database searches Introduction to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) tools.

2 Credit Hours

GADS 5020 Evidence-based clinical practice

This course will provide a summary of the main statistical concepts needed to to make decisions based on data. Some of the material that will be covered includes: data displays, summary statistics, probability distributions and expectation, statistical inference procedures for univariate and bivariate data, linear regression models, and analysis of variance. You will learn how to test a hypothesis, which includes phrasing a hypothesis, making a rationale choice of experimental design, choosing the statistics best suited to test the hypothesis, and assessing the results with standard errors, confidence intervals, and p-values. This course is part of the MADS core curriculum.

Fall

2.25-5 Credit Hours

GADS 5021 Head and Neck Anatomy

The course will provide a review of principal anatomy comprising the stomatognathic system.

0.25-1.25 Credit Hour

GADS 5030 Oral and systemic diseases

The Oral and Systematic Diseases course follows several distinct topics, including Genetics, congenital malformation/embryology, pharmacology, head and neck anatomy, among others. The treatment of patients with cleft lip/palate and other types of craniofacial anomalies in the United States has improved dramatically, many children still receive care that is substantially inferior to what can or should be provided. Inadequate care results from diagnostic errors, failure to recognize and treat the full spectrum of health problems associated with these anomalies, unnecessary and poorly timed treatment, and inappropriate or poorly performed procedures. This course will inform of these persistent problems. Embryology lecture is an overview of the field from its 19th Century with Hegel and "Ontogeny recapitulates Phylogeny" to the 21st century research on "Evo-Devo" and the HOX development genes and their relations to the contemporary understanding of embryological development including stem cells. Pathology is a course that will apply what students have already learned to the study of disease. It is an essential link between the basic and clinical sciences concerned with the mechanisms of disease (e.g., inflammation, neoplasia, and immunopathology) and the disease processes that students will encounter during their careers in dentistry. While the emphasis will be on oral pathology, one must also be familiar with systemic diseases that may impact on the health of the patients. Pharmacology is both a basic science and a clinical science. It builds on the foundation of anatomy, biochemistry, physiology, and pathology and bridges the gap into clinical dentistry. This course in basic pharmacology will give the students a better understanding of drugs, interpreting complicated drug/medical histories, and understanding drug reactions This course is for the MADS core curriculum

Fall

7-9 Credit Hours

GADS 5032 Osteoimmunology

The course will provide information about bone biology and metabolism and how it interfaces with the host immune response.

0.75-2 Credit Hours

GADS 5042 Pharmacology

The course will provide information about basic pharmacology and give the students a better understanding of drugs, interpreting complicated drug/medical histories, and understanding drug reactions.

0.75-2.25 Credit Hours

GADS 5052 Wound Healing

The course includes information given by experts in the basic and/or clinical sciences. The first seven lectures cover the basic biologic aspects of wound healing. These are followed by a series of five lectures discussing wound healing in a more clinical context covering the topics of fracture repair, osseointegration, orthodontics, endodontics and periodontics.

0.5-2 Credit Hours

GADS 5061 Maxillofacial Radiology

The course will provide in depth discussion about radiographic interpretation and differential diagnosis of various pathological conditions which show similarities on x-rays.

0.25-1.25 Credit Hour

GADS 5071 Ethics

The courses is to impart a general knowledge of fundamental concepts in principles of professionalism and ethical decision making with emphasis on care-based discussions.

0.25-1.5 Credit Hour

GADS 5081 Grand Rounds Conference

This conference based course will provide an understanding of the sequential management of multidisciplinary cases from a diagnostic and treatment basis. It will involve student presentations from each specialty followed by panel discussion.

0.25-1.5 Credit Hour

GADS 5082 Interdisciplinary Seminars Grand Rounds

This conference based course will provide an understanding of the sequential management of multidisciplinary cases from a diagnostic and treatment basis. It will involve student presentations from each specialty followed by panel discussion.

0.25-1 Credit Hour

GADS 5111 Adv Oral Surgery

Advanced oral surgery

0.5 Credit Hours

GADS 5201 Topic Presentation I

The students deliver evidence based Keynote or PowerPoint presentations on a topic of their choice followed by discussion.

6-9 Credit Hours

GADS 5212 Topics Presentation II

The students deliver evidence based Keynote or PowerPoint presentations on a topic of their choice followed by discussion.

1-2 Credit Hours

GADS 5221 Literature Review I

Review and discussion of current and classic literature topics
Fall

5-8 Credit Hours

GADS 5232 Literature Review II

Review and discussion of current and classic literature topics
1-2 Credit Hours

GADS 5241 Literature Review III

Review and discussion of current and classic literature topics
5-8 Credit Hours

GADS 5252 Literature Review IV

Review and discussion of current and classic literature topics
Spring

1-2 Credit Hours

GADS 5262 In-Service Exam

Pediatric dentistry comprehensive exam

0.25 Credit Hours

GADS 5271 Endodontic Rotation Fall

Clinical rotations in specific specialty clinics will provide clinical experience in diagnosis, treatment planning, and patient care through observation.

10-14 Credit Hours

GADS 5272 Endodontic Rotation

Endodontic Rotation

3 Credit Hours

GADS 5302 Pathology

The course will provide information about the link between the basic and clinical sciences concerned with the mechanisms of disease (e.g., inflammation, neoplasia, and immunopathology). While the emphasis will be on oral pathology, systemic diseases and their impact on overall health will also be discussed.

0.25 Credit Hours

GADS 5311 Biological Systems

The course combines an introduction to the general principles of anatomy, histology, and physiology of the human cardiovascular, pulmonary and renal systems, with an extensive study of the pathology and therapeutics of these systems, with an explicit emphasis on their relationship to dental practice.

6-9 Credit Hours

GADS 5322 Oral Medicine

The purpose of this course is to provide foundational and applied knowledge of common oral medicine-related conditions as well as an understanding of medical conditions which directly affect the oral and maxillofacial structures.

0.5-2 Credit Hours

GADS 5331 Brightman Conference

This conference provides residents with didactic training in the fundamentals of oral medicine.

1.75-3 Credit Hours

GADS 5332 Brightman Conference II

The conference provides information about the fundamentals of oral medicine.

1-2.5 Credit Hours

GADS 5341 S. Gary Cohen Conference

The course will allow academic discussion of disease, disease processes, and therapeutic management of a wide range of topics related to oral medicine.

2-4 Credit Hours

GADS 5342 Cohen Conference II

The course will allow academic discussion of disease, disease processes, and therapeutic management of a wide range of topics related to oral medicine.

1.5-3 Credit Hours

GADS 5351 Oral and Maxillofacial Complex I

The Diagnostic Oral pathology and Radiology course is designed to give the dental student an understanding of the diagnosis of diseases pertaining to head and neck as well as interpreting histologic and radiographic investigations.

2.5-5 Credit Hours

GADS 5352 Oral and Maxillofacial Complex

The course will provide in depth discussion about the link between the basic and clinical sciences concerned with the mechanisms of disease (e.g., inflammation, genetic disease, neoplasia, and immunopathology). The emphasis will be on oral soft and hard tissue pathology, including oral manifestations of systemic diseases that may impact overall health of the patients.

2-3.5 Credit Hours

GADS 5362 Oral Medicine Rotation

Clinical rotations in specific specialty clinics will provide clinical experience in diagnosis, treatment planning, and patient care through observation.

6 Credit Hours

GADS 5492 Clinicopathologic Conference

Oral Surgery conference

0.25 Credit Hours

GADS 5501 Orthodontics

The course provides information about the growth and development, concentrating on child somatic, craniofacial, and dental growth and development. The students will build a solid foundation along the lines of diagnosing problems and understanding the etiology of malocclusion and space maintenance.

4-7 Credit Hours

GADS 5502 Adjunctive Ortho Technique

This course is designed to expose the student to basic orthodontic laboratory and clinical procedures and encourages the development of technical abilities in banding, bonding, wire bending, and removable appliance fabrication.

0.5 Credit Hours

GADS 5511 Penn Orthodontics CE – Fall

pending

0.75 Credit Hours

GADS 5512 Orthodontics II

The course will provide the student with experience in early orthodontic treatment, exposing him/her to malocclusions arising in a normally developing craniofacial complex. Management of these problems aims at providing an unimpeded eruption and alignment of the permanent dentition. Other topics include biological and mechanical principles of tooth movement as well as corrective orthodontics.

0.5-1.5 Credit Hour

GADS 5521 Case Presentation I

The students attend the case presentation seminars.

0.5-2 Credit Hours

GADS 5522 Case Presentation II

The students attend the case presentation seminars.

0.25-1.25 Credit Hour

GADS 5531 Growth & Development II

pending

2-5 Credit Hours

GADS 5532 Biomechanics

pending

0.75 Credit Hours

GADS 5541 Interceptive Orthodontics

pending

1-3 Credit Hours

GADS 5542 Literature Review

pending

0.5 Credit Hours

GADS 5551 Comprehensive Orthodontic Treatment

pending

1-3 Credit Hours

GADS 5552 Orthognathic Surgery/TMJ Lecture Series

The students attend the orthognathic surgery seminars and TMJ lecture series.

0.25-1 Credit Hour

GADS 5561 Penn Orthodontic Department Lecture Series I

The course will provide the students various topics in Orthodontics described above.

Fall

1-3 Credit Hours

GADS 5562 Case Presentation I

pending

0.25-1.5 Credit Hour

GADS 5571 Orthognathic Surgery/TMJ Lecture Series I

The students attend the orthognathic surgery seminars and TMJ lecture series.

0.25-1.5 Credit Hour

GADS 5572 TMD Diagnosis & Therapy

pending

0.75 Credit Hours

GADS 5582 Orthodontics Rotations

Clinical rotations in specific specialty clinics will provide clinical experience in diagnosis, treatment planning, and patient care through observation.

4-7 Credit Hours

GADS 5591 Orthodontics II

The course will provide the student with experience in early Orthodontic treatment, exposing them to malocclusions arising in a normally developing craniofacial complex. Other topics include biological and mechanical principles of tooth movement as well as interceptive and comprehensive corrective Orthodontics.

1-2.5 Credit Hours

GADS 5592 Penn Orthodontic Department Lecture Series II

The course will provide the students various topics in Orthodontics described above.

Spring

0.5-2 Credit Hours

GADS 5601 Pathology

Pathology is a course that will apply what students have already learned to the study of disease. It is an essential link between the basic and clinical sciences concerned with the mechanisms of disease (e.g., inflammation, neoplasia, and immunopathology) and the disease processes that students will encounter during their careers in dentistry. While the emphasis will be on oral pathology, one must also be familiar with systemic diseases that may impact on the health of the patients.

1-4 Credit Hours

GADS 5602 Maxillofacial Trauma

pending

0.25 Credit Hours

GADS 5611 Embryology, Genetics, Congenital Malformation

The program includes the core basic science courses, designed to encompass the various disciplines basic to advanced studies in the science and practice of dentistry. They are designed to expose students to modern concepts in the areas covered with the objective of updating and expanding upon their predoctoral knowledge of oral biology. The courses are designed to meet the requirements of the different specialty organizations. All programs are presented on an academic term basis.
0.5-4 Credit Hours

GADS 5612 Nitrous Oxide Nitrous Oxygen Analgesia

This course is designed to provide didactic and clinical instruction in nitrous oxide/oxygen analgesia in accordance with American Dental Association Guidelines. Upon completion of this course, the participant will be eligible for an Anesthesia Restricted Permit II from the Pennsylvania State Board of Dentistry. Participants will have the opportunity to administer (to each other and patients) and undergo nitrous oxide sedation under close supervision. The course is geared to general dentists and dental specialists.
1 Credit Hour

GADS 5621 Introduction to Pediatric Dentistry Fall

A comprehensive course to provide an overview of main topics in Pediatric Dentistry including diagnosis, rationale for treatment and description of basic treatment techniques.
1.5-4.5 Credit Hours

GADS 5622 Introduction to Pediatric Dentistry Spring

A comprehensive course to provide an overview of main topics in Pediatric Dentistry including diagnosis, rationale for treatment and description of basic treatment techniques.
2 Credit Hours

GADS 5631 Comprehensive Review of Pediatric Dentistry I

The course is a more in depth/advanced presentations in several areas of Pediatric Dentistry through case presentations by medical and dental professionals.
Spring
5-8 Credit Hours

GADS 5632 Comprehensive Review of Pediatric Dentistry II

The course is a continuation of the Introduction to Pediatric Dentistry course and includes a more in depth/advanced presentations in several areas of Pediatric Dentistry through case presentations by medical and dental professionals.
4-7 Credit Hours

GADS 5642 Pediatric Rotation

Clinical rotations in specific specialty clinics will provide clinical experience in diagnosis, treatment planning, and patient care through observation.
4-7 Credit Hours

GADS 5652 Embryology, Genetics, and Congenital Malformation

This course will provide information about the persistent problems associated with cleft lip/palate and other types of craniofacial anomalies throughout lifetime of patients and include a thorough discussion of past and current concepts.
0.25-1.5 Credit Hour

GADS 5662 Trauma

The course provides students with an understanding of how to evaluate a patient presenting with dental trauma, the review of biological sequelae, and formulate a treatment plan and prognosis.
0.25-1.5 Credit Hour

GADS 5701 Implant Dentistry

Begin to develop a didactic basis for the development of a clinical competency in providing patient care to dentate, as well as partially and totally edentulous patients. Utilizing operative dentistry, fixed prosthodontics, removable prosthodontics and dental implants as restorative modalities will be emphasized.
1-4 Credit Hours

GADS 5702 Classic and Current Literature Review Spring

Students gain a fundamental knowledge of periodontal diseases and treatments through review of classic periodontal literature
3 Credit Hours

GADS 5711 Introduction to Periodontology

The course will provide information about the current basic biological concepts applied to the healthy and diseased periodontium, the etiology, pathogenesis, and epidemiology of periodontal diseases. Different forms of periodontal diseases, non-surgical and surgical therapeutic modalities, multidisciplinary treatment approaches, and information on the prognosis of periodontal therapy will be discussed.
7-11 Credit Hours

GADS 5712 Periodontics Case Presentation Spring

Critical review and discussion of current concepts of surgical techniques and treatment in periodontology through case presentation.
1.25 Credit Hour

GADS 5721 Classic and Current Literature Review

This course aims to review and critically analyze classic and current periodontal literature, to acquire thorough knowledge of periodontal disease onset, progression, and treatment modalities, and to prepare those who are eligible for certification by the American Board of Periodontology.
4-9 Credit Hours

GADS 5722 Periodontal Prosthesis Case Presentation Spring

Critical review and discussion of current concepts of surgical techniques and treatment in Periodontal Prosthesis through case presentation.
2.25 Credit Hours

GADS 5731 Periodontics Case Presentation

Critical review and discussion of current concepts of surgical techniques and treatment in periodontology through case presentation.
2-5 Credit Hours

GADS 5732 Fundamentals of Periodontics Spring

A comprehensive course to provide an overview of periodontal anatomy, diagnosis and classification, rationale and basic techniques for periodontal therapy. Special emphasis is given to the correlation between histologic and clinical characteristics.
3 Credit Hours

GADS 5741 Periodontal Prosthesis Case Presentation Fall

Critical review and discussion of current concepts of surgical techniques and treatment in Periodontal Prosthesis through case presentation.
2.25-5 Credit Hours

GADS 5742 Periodontics Rotation

Two 3 week observational periods in the Periodontics Clinic
6.25 Credit Hours

GADS 5751 Fundamentals of Periodontics Fall

A comprehensive course to provide an overview of periodontal anatomy, diagnosis and classification, rationale and basic techniques for periodontal therapy. Special emphasis is given to the correlation between histologic and clinical characteristics.
3-5 Credit Hours

GADS 5801 Introduction to Advanced Fixed Prosthodontics

The art and science of Fixed Prosthodontics is discussed with emphasis on the fundamental biomechanical principles, materials and techniques required to rehabilitate oral function and form with single and multiple unit fixed prostheses at the level of a specialist. Conventional and digital workflow for clinical and laboratory fixed prosthodontic procedures, concepts of occlusion, articulators, esthetics as well as implant-supported fixed prosthesis are also included.

1-3 Credit Hours

GADS 5802 Literature Review Seminar II

The seminar includes the review, critical evaluation and discussion of prosthodontic classic and current literature with an intent to help participants develop and comprehend an evidence-based approach to oral health care and patient management with a focus on prosthodontic procedures.

5-7 Credit Hours

GADS 5811 Introduction to Advanced Removable Prosthodontics

The fundamentals of removable prosthodontics (complete denture and partial removable dental prosthesis) and the concepts of occlusion, articulators as well as implant retained and supported removable prosthesis laboratory steps are discussed.

1-4 Credit Hours

GADS 5812 Treatment Plan Seminar II

The course involves clinical case presentations and aims to develop skills in diagnosis, prognosis, and treatment planning and maintenance and treatment outcomes assessment of patients with complex prosthodontic needs.

5-7 Credit Hours

GADS 5821 Literature Review Seminar

The seminar includes the review, critical evaluation and discussion of prosthodontic classic and current literature with an intent to help participants develop and comprehend an evidence-based approach to oral health care and patient management with a focus on prosthodontic procedures.

3-5 Credit Hours

GADS 5822 Occlusion

The Diagnostic Oral pathology and Radiology course is designed to give the dental student an understanding of the diagnosis of diseases pertaining to head and neck as well as interpreting histologic and radiographic investigations.

0.5 Credit Hours

GADS 5831 Treatment Plan Seminar

The course involves clinical case presentations and aims to develop skills in diagnosis, prognosis, and treatment planning and maintenance and treatment outcomes assessment of patients with complex prosthodontic needs.

2-5 Credit Hours

GADS 5832 Prosthodontics Rotation

Clinical rotations in specific specialty clinics will provide clinical experience in diagnosis, treatment planning, and patient care through observation.

5-7 Credit Hours

GADS 5841 Current Literature Review Seminar

A monthly seminar series discussing current literature in the full scope of prosthodontics and relevant sciences.

0.25-2.5 Credit Hours

GADS 5842 Current Literature Review Seminar II

A monthly seminar series discussing current literature in the full scope of prosthodontics and relevant sciences.

5-7 Credit Hours

GADS 5852 Current Literature Review Seminar

pending

0.5 Credit Hours