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The Fall courses below are offered online this semester due to the COVID pandemic. Please see page 4 for course description and further details.

<table>
<thead>
<tr>
<th>Core Course</th>
<th>Credits</th>
<th>Day</th>
<th>Time</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORB608: Graduate Head &amp; Neck Anatomy</td>
<td>3</td>
<td>F</td>
<td>8:00 AM - 9:30 AM</td>
<td>Not Offered</td>
</tr>
<tr>
<td>IDP604: Foundations for the Advanced Dental Practitioner</td>
<td>3</td>
<td>M</td>
<td>10:00 AM - 12:00 PM</td>
<td>8/24 to 12/18</td>
</tr>
<tr>
<td>ORB601: Oral Microbiology</td>
<td>3</td>
<td>M</td>
<td>8:00 AM - 10:00 AM</td>
<td>8/24 to 12/18</td>
</tr>
<tr>
<td>ORB602: Oral Immunology</td>
<td>3</td>
<td>T</td>
<td>8:30 AM – 10:30 AM</td>
<td>8/24 to 12/18</td>
</tr>
<tr>
<td>IDP500, 501, &amp; 502: Interdepartmental Multidisc. Case Presentation Seminars</td>
<td>N/A</td>
<td>T</td>
<td>7:30 AM - 8:15 AM</td>
<td>9/23 to 5/4</td>
</tr>
<tr>
<td>IDP602: Fundamentals of Research</td>
<td>3</td>
<td>T</td>
<td>10:30 AM – 12:30 AM</td>
<td>9/28 to 2/3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Clinical Electives</th>
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</thead>
<tbody>
<tr>
<td>DEN601: Dental Education Longitudinal Seminar Series</td>
<td>N/A</td>
<td>W (alt.)</td>
<td>10:00 AM - 12:00 PM</td>
<td>9/9 to 5/12</td>
</tr>
<tr>
<td>DHE501: Career Development in Global and Community Health</td>
<td>N/A</td>
<td>TBD</td>
<td>TBD</td>
<td>8/24 to 5/4</td>
</tr>
<tr>
<td>DHE722: Health Policy Issues: Access to Dental Services</td>
<td>N/A</td>
<td>T</td>
<td>6:45 PM – 8:45 PM</td>
<td>9/8 to 12/18</td>
</tr>
<tr>
<td>DPH703: Design and Implementation of Complex Survey Data</td>
<td>4</td>
<td>varies</td>
<td>varies</td>
<td>8/19 to 5/4</td>
</tr>
</tbody>
</table>

**Fall Calendar**

- **AGE New Student Orientation**
  - July 1-2, 2020
- **Holiday: Independence Day**
  - July 3, 2020
- **Fall HSDM Electives & Cross-Registration Period begins**
  - August 13, 2020
- **HSDM AGE Fall Courses begin**
  - August 24, 2020
- **Holiday: Labor Day**
  - September 7, 2020
- **HSDM & Cross-Registration Add/Drop/Change Deadline**
  - September 12, 2020
- **Holiday: Columbus Day**
  - October 12, 2020
- **Holiday: Veterans’ Day**
  - November 11, 2020
- **Thanksgiving Recess**
  - November 25 to 27, 2020
- **HSDM AGE Fall Courses and Final Examinations end**
  - December 18, 2020
- **Winter Recess**
  - December 21, 2020 to January 1, 2021
Course Descriptions

ORAL BIOLOGY

ORB601: Oral Microbiology
Course Director: Bruce Paster
Format: Lecture

Evaluation: Weekly quizzes and class participation. Students are expected to actively participate in class; significant time is allotted at the end of each lecture when every student is asked, "What did you learn today?"

Description:
The objective of this course is to present fundamental information and concepts regarding the relationship between microbiology (bacteriology) and dental diseases. The relationship between basic and clinical research is explored to include significance in clinical dental practice - as it is and how it might develop. The first part of the course covers traditional and newly developed molecular microbiological methods. The taxonomy of oral species is presented including methods used to derive stable species classifications. Acquisition of the oral microbiota and inter-bacterial relationships as they relate to plaque biofilm ecology are described. The second part of the course covers microbiology of dental caries and periodontal infections including other oral infections of dental origin including peri-implant and endodontic microbiology. Therapy, virulence and anti-microbial strategies for therapy and prevention are presented, and an introduction to species virulence and pathogenicity. Class participation is an important component of the course.

Prerequisites: None
Open to Cross Registrants: Yes

ORB602: Oral Immunology
Course Director: Xiaozhe Han
Evaluation: Periodic quizzes and final exam
Format: Lecture

Description:
This course provides students with the fundamentals of basic immunology in relation to the oral microenvironment, including a comprehensive survey of 1) the physiology of the oral mucosal immune system, 2) primary colonizers of the oral cavity, both commensal and pathogenic, 3) innate and adaptive immune responses toward microorganisms, and 4) perspectives in translational immunology. The course particularly focuses on 1) cell types of the adaptive immune system and 2) innate immune response in both systemic and mucosal environments, as characterized by humoral, chemical and cellular barriers, as well as inflammation. Disorders affecting oral mucosa are extensively discussed, including those that involve dental caries, periodontal and pulpal infection, human immunodeficiency virus, and such autoimmune diseases as Sjögren's syndrome. The vaccine formulation and its delivery strategy as well as the emerging technology of monoclonal antibody-based therapies will be also addressed in relation to oral infectious diseases. Outside reading of two hours each week is required.

Prerequisites: None
Open to Cross Registrants: Yes
**Biostatistics**

**IDP751: Biostatistics**  
*Course Director:* Sung Choi  
*Format:* Didactic lectures and computer laboratory sessions  
*Evaluation:* Assessment will be based upon 2 examinations as well as homework assignments

*Description:*  
This course will provide an introduction to the principles of biostatistics. This course is designed primarily for clinical researchers or clinicians with an interest in research. Topics to be covered include summarizing and displaying data, the normal distribution, Central Limit Theorem, probability, estimation and hypothesis testing. Students will also develop skills in data entry and the analysis and interpretation of data.

*Prerequisites:* None  
*Open to Cross Registrants:* Yes

**Foundation**

**IDP604: Foundations for the Advanced Dental Practitioner**  
*Course Directors:* Christine Riedy & Tien Jiang  
*Format:* Lecture, discussion, focus groups, integrated case presentations  
*Evaluation:* Group projects (20%), attendance/class participation (5%), Quizzes (5%), Online/Self directed learning (60%) and Self-assessment (10%)

*Description:*  
The overall goal of the foundations for the advanced dental practitioner course is for dental residents to gain the basic fundamentals necessary for the future practice of dentistry including understanding ethics/professionalism, evidence-based dentistry, behavioral science, leadership and professional development, practice management including risk management and malpractice, and teaching methodology and to demonstrate their applicability to dental practice. The course will be structured to actively engage students using strategies that foster integrated approaches to learning. As such, the format will consist of lectures, self-directed learning and group-based assignments, problem solving, self-reflection exercises, and integrated case presentations. Multiple integrated self-assessments will be used throughout the course, including written self-assessment and reflection, and focus groups. Students will need to complete these assessments in a timely manner. Attendance will be taken.

*Prerequisites:* HSDM AGE Student  
*Open to Cross Registrants:* No

**Research**

*Course Directors:* Malcolm Whitman, Hawazin Elani, & Gilli Naveh  
*Format:* Seminar  
*Evaluation:* Quizzes: 40%, Assignments: 30%, Presentation: 30%
**Description:**
The Fundamentals of Research course will expose students to the basic and clinical research that is being conducted at HSDM. It will also provide the students the necessary tools for developing a testable scientific hypothesis, design and critique a scientific experiment, as well as organize and write a scientific paper. The course will also teach the students proper oral scientific presentation and communication. Students will be required to complete writing and group assignments, lesson quizzes, and prepare a presentation.

**Prerequisites:** No  
**Open to Cross Registrants:** Yes

### Multidisciplinary


*Course Director:* Mohammed Masoud  
*Format:* Case presentation, discussion  
*Evaluation:* Class participation and attendance

**Description:**
These seminars involve faculty and students from endodontics, periodontics, orthodontics and prosthodontics. Cases are selected by a senior graduate student and presented by the student. For each case, there are several students from other disciplines serving as consultants. Open, animated discussion and commentary follow these presentations. In addition, third year AGE students in Endodontics, Orthodontics, Periodontics and Prosthodontics will present a single lecture on a topic concerning "mortality and morbidity.”

**Prerequisites:** HSDM AGE Student  
**Open to Cross Registrants:** No

### Non-Clinical Electives

**DEN601: Dental Education Longitudinal Seminar Series | Academic Year (9/9/2020 - 5/12/2021)**

*Course Director:* Sang Park & Edward Krupat  
*Format:* Literature review and presentation  
*Evaluation:* Class participation (30%), Attendance (20%), Preparation (30%), ePortfolio (20%)

**Description:**
The Dental Education Seminar Series is based on related scientific evidence applied to educational quality, educational research, curriculum design and academic leadership. The goal of this course is to enable residents to read, understand, and analyze published research in dental and health care education.

**Prerequisites:** HSDM AGE Student  
**Open to Cross Registrants:** No
**DEH501: Career Development in Global and Community Health | Academic Year**

*Course Director:* Brittany Seymour  
*Format:* Discussion, presentation, question/answer with guest speakers  
*Evaluation:* Attendance, participation, small group preparation

**Description:**
This is a seminar series course that examines the extensive career opportunities in global and community health through seminars provided by invited speakers currently working in the field. A variety of topics and areas of global health will be covered, and speakers may be added throughout the year as opportunities arise. By incorporating their current places of work and projects into presentations, discussions, and question and answer sessions, speakers will introduce students to a spectrum of global health career opportunities, both in the local community and abroad. Students will be required to attend a minimum of eight seminar sessions offered throughout the year. Students are evaluated on attendance and participation, as well as small group preparation through readings and discussion prior to scheduled lectures. By the end of this course, the student will be able to demonstrate understanding of the variety of career options in global health (possibly including program and policy development, private practice outreach, community health practice, research, and academics), as well as to demonstrate an understanding of the development of professional relationships in the field of global and community health.

**Prerequisites:** DMD students for credit (all years, as long as there are no pre-existing schedule conflicts), open to AGE students for audit, open to cross-registrants  
*Open to Cross Registrants:* Yes

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**DEH722: Health Policy Issues: Access to Dental Services**

*Course Directors:* Chester Douglass & Erinne Kennedy  
*Format:* Lecture, discussion  
*Evaluation:* 20% class participation, 30% leading class discussion on topic, 50% final paper on specific health policy issue

**Description:**
This course uses examples and issues in dentistry and dental public health as a strategy for understanding health policy and public health program development at the local, state and national levels. The objectives are: to apply the health policy process and community health program planning methods to dental services program development; and to identify possible linkages between the public health system and the (dental) health services delivery system.

**Prerequisites:** None  
*Open to Cross Registrants:* Yes

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*Course Directors:* Israel Agaku & Constantine Vardavas  
*Format:* Lecture, intensive interactive sessions, group projects, and one-on-one consultations with instructors  
*Evaluation:* Research Protocol (50%), Attendance (10%), Class Participation (10%), & Final Presentation (30%)

**Description:**
The first of two progressive sections which will be covered as two courses in two consecutive fall semesters. Students may take this Part I course alone. Part I will cover the design and implementation, while Part II will cover analyses and reporting of complex survey data. The deliverables will be a research proposal/protocol, 15-20 pages in length (Part I), or a draft manuscript that is of enough quality to be submitted to a peer-reviewed journal (Part II). Students will also be required to deliver a PowerPoint presentation of their proposal (Part I) or research (Part II). Completion of Part I is a pre-requisite for taking Part II. These courses will provide a comprehensive hands-on approach for the design, implementation, analyses, and reporting of cross-sectional survey data.

**Prerequisites:** Students should be familiar with basics of probability and statistical inference and should have taken a course in basic biostatistics. Previous knowledge of statistical software (e.g., STATA, SAS, R) will be beneficial.

**Open to Cross Registrants:** No

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**Cross-Registration**

**General Information**

Selection of elective courses should be done in conjunction with the Program Director and should relate to the student’s academic and research interests. It is expected that students will take *graduate level courses* to fulfill their elective requirements and will not repeat coursework taken as an undergraduate or in dental school. To add courses, students should sign in to my.harvard.edu and use my.harvard Course Search to access course schedules and descriptions. For further information on the cross-registration, please visit https://hsdm.harvard.edu/cross-registration.

**Basic Science and Education Electives**

AGE degree programs require students to complete either Basic Science or Education electives. Visit https://hsdm.harvard.edu/age-electives for a list of courses that have been previously evaluated for Basic Science and Education credit types. Please consult the Harvard University Catalog for current course offerings.

Students who cross-register for courses that have not been evaluated by HSDM Registrar Services will receive non-clinical elective credit. NO EXCEPTIONS.