Texas A&M University
Baylor College of Dentistry
Oral and Maxillofacial Radiology

The college offers a postgraduate (certificate) training in Oral and Maxillofacial Radiology (OMR). The program is accredited by the Commission on Dental Accreditation of the American Dental Association and has been granted the initial accreditation. Eligibility for admission includes US and Canadian graduates from institutions accredited by their respective Commissions on Dental Accreditation or foreign graduates who are deemed to possess an equivalent educational background as determined by the institution and program. GRE is not required for this certificate program. The educational mission of the Oral and Maxillofacial Radiology advanced education program is to graduate comprehensively trained residents who will become proficient radiologists, competent teachers who are familiar with foundational research training and study assessment, and strong contributors to the profession.

Educational Goals
To prepare our residents to be proficient OMR practitioners, it is expected that they will:

• Understand and appropriately apply imaging principles and clinical findings to select an imaging study most appropriate for each diagnostic task;
• Understand and appropriately apply the principles of image production, disease pathophysiology, and clinical patient management to proficiently interpret imaging studies of the oral and maxillofacial region;
• Critically appraise and assess the current OMR literature;
• Organize and present effective and intriguing didactic, seminar, clinical, and laboratory teaching experiences, for students/practitioners, in the principles applicable to OMR; and
• Collaborate in original scholarly projects.

The educational objectives of the advanced education program in Oral and Maxillofacial Radiology are objective and measurable. The level of skill with which a student masters these objectives defines whether the student is competent or proficient. No student will be awarded a certificate of completion of the program until they have been found by the faculty to be competent in all areas of the specialty. While proficiency is traditionally considered to be the level of skill acquired through advanced training, it is the opinion of our faculty that while our graduates may appear proficient in comparison to dental graduates, true proficiency comes only with considerable experience and can only be attained in practice where experience increases diagnostic ability and productivity.

Educational Objectives
To achieve these goals, all residents will:

• Acquire knowledge in radiation physics, radiation biology, radiation risk and protection, and radiologic quality assurance, and research methodology;
• Actively participate in the TAMBCD Imaging Center by interpreting advanced radiographic imaging studies on at least 100 patients, as well as planning imaging protocols and acquisitions;

• Gain experience in head and neck interpretation using multidetector computed radiography, magnetic resonance imaging, computed tomography, and ultrasound, and nuclear medicine modalities in a hospital-based medical radiology clinical service;

• Participate in head and neck tumor boards;

• Acquire expertise in head and neck anatomy with an understanding of oral medicine, oral diagnosis, oral pathology, and oral histology;

• Comprehensively follow cases from clinical and radiographic presentation through direct interaction with referring clinical departments;

• Participate in teaching dental students in the undergraduate Radiology Clinic and present seminars and cases to faculty and other residents;

• Participate and present cases in OMR case conferences;

• Participate in OMR literature reviews; and

• Conduct original scholarly project suitable for presentation at national/international meeting.

Each student will complete a standardized curriculum. Enclosed are a listing, description and length of required didactic and clinical courses available at the institution. The courses are intended to provide the student with sufficient foundational knowledge that when appropriately applied will allow the student to achieve the goals and objectives of the program.

Additional rotations are required. In addition to participating in the Oral and Maxillofacial Radiology Clinical Service at TAMBCD, each student will spend a minimum of three months in the Medical Radiology Clinical Service at Baylor University Medical Center (BUMC), which is immediately adjacent to TAMBCD. This rotation will provide the student with a hands-on knowledge of the workings of a modern, sophisticated hospital based radiology service in a level-I trauma center in a major metropolitan city. The student will gain valuable experience in protocol selection, management, and interpretation of cases utilizing advanced diagnostic imaging services (e. g. CT, MRI, nuclear medicine, and ultrasonography). Students will also participate in Head and Neck Tumor Board (BUMC), Oral and Maxillofacial Surgery Grand Rounds, Orthognathic Surgery Conference, OMR Case Conference, and OMR Literature Review/Journal Club.

During their training, students will be under the supervision of graduate faculty, most with board certification in their various disciplines. The duties of students are supplied on the semester schedule enclosed. It is the departmental philosophy that learning is an active and often independent endeavor and the responsibility for learning and advancement lies jointly with the student and graduate faculty.

The College maintains a strict and up-to-date policy on infection control to protect students, staff, faculty and patients. The written policy is available on request.

ORAL & MAXILLOFACIAL RADIOLOGY
Regents Professor and Director: Byron W. Benson
Associate Professors: Hui Liang, Diane J. Flint

Graduate Program

Postgraduate Program (Certificate)

- 30 semester hours minimum
- 2 months minimum
- Starting date: July

Program Goals

The mission of the Oral and Maxillofacial Radiology (OMR) advanced education program is to graduate comprehensively trained residents who will become proficient radiologists, competent teachers who are familiar with foundational research training and study assessment, and strong contributors to the profession.

Curriculum

1st Year Summer Semester (7 weeks)          Clock Hours  Credit Hours
BMS 5V04 Head and Neck Anatomy              22          1.5
OMFR 5210 OMR Imaging Technology             28          1.0
OMFR 5V01 Literature Review Journal Club    7           0.5
OMFR 5V06 OMR Clinical Radiology Service    56          1.0
HPED 5225 Teaching Skills                   18          1.0
TOTAL                                      131         5.0

1st Year Fall Semester (17 weeks + *break periods) Clock Hours  Credit Hours
BIMS 5221 Research Design and Methodology    34          2.0
OMFR 5200 Principles of OMR Interpretation  34          2.0
OMFR 5020 Case Conference                    17          0.0
OMFR 5300 Clinical Teaching                 68          0.0
Head and Neck Tumor Board @ BUMC            4           0.0
OMFR 5V01 Literature Review Journal Club    17          1.0
OMFR 5V06 OMR Clinical Radiology Service    31*         5.0
TOTAL                                      486*         10.0

1st Year Spring Semester (18 weeks + break periods) Clock Hours  Credit Hours
BIMS 5222 Applied Statistics                 36          2.0
OMFR 5250 Advanced Oral Radiology            18          1.0
OMFP 5V21 Advanced Oral Pathology            36          2.0
OMFR 5020 Case Conference                    21*         0.0
OMFR 5300 Clinical Teaching                 72          0.0
Head and Neck Tumor Board @ BUMC            7*          0.0

TOTAL                                      486*         10.0
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<thead>
<tr>
<th>Course</th>
<th>Clock Hours</th>
<th>Credit Hours</th>
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<tr>
<td>OMFR 5V01 Literature Review Journal Club</td>
<td>18</td>
<td>1.0</td>
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<tr>
<td>OMFR 5V06 OMR Clinical Radiology Service</td>
<td>368*</td>
<td>6.0</td>
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<td><strong>TOTAL</strong></td>
<td><strong>565</strong>*</td>
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2nd Year Summer Semester (7 weeks)

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Head and Neck Tumor Board @ BUMC</td>
<td>3</td>
<td>0.0</td>
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<tr>
<td>OMFR 5020 Case Conference</td>
<td>7</td>
<td>0.0</td>
</tr>
<tr>
<td>OMFR 5V01 Literature Review Journal Club</td>
<td>7</td>
<td>0.5</td>
</tr>
<tr>
<td>OMFR 5V06 OMR Clinical Radiology Service</td>
<td>112</td>
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<tr>
<td>OMFR 5V20 Medical Clinical Radiol Serv @ BUMC</td>
<td>56</td>
<td>1.0</td>
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<tr>
<td>OMFR 5010 Radiation Physics/Biology @ BUMC</td>
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<td><strong>TOTAL</strong></td>
<td><strong>192</strong></td>
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2nd Year Fall Semester (17 weeks + break periods)

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Head and Neck Tumor Board @ BUMC</td>
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<tr>
<td>OMS Grand Rounds/Trauma @ BUMC</td>
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<td>Orthognathic Surgery Conference</td>
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<tr>
<td>OMFR 5020 Case Conference</td>
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</tr>
<tr>
<td>OMFR 5300 Clinical Teaching</td>
<td>34</td>
<td>0.0</td>
</tr>
<tr>
<td>OMFR 5V01 Literature Review Journal Club</td>
<td>17</td>
<td>1.0</td>
</tr>
<tr>
<td>OMFR 5V06 OMR Clinical Radiology Service</td>
<td>204</td>
<td>3.5</td>
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<tr>
<td>OMFR 5V20 Medical Clinical Radiol Serv @ BUMC</td>
<td>228*</td>
<td>3.5</td>
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<tr>
<td>OMFR 5010 Radiation Physics/Biology @ BUMC</td>
<td>19*</td>
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<tr>
<td>ORTHO 5108 Advanced Cephalometrics</td>
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<td><strong>TOTAL</strong></td>
<td><strong>540</strong>*</td>
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2nd Year Spring Semester (18 weeks + break periods)

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<tr>
<th>Course</th>
<th>Clock Hours</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Head and Neck Tumor Board @ BUMC</td>
<td>10*</td>
<td>0.0</td>
</tr>
<tr>
<td>OMFR 5020 Case Conference</td>
<td>22*</td>
<td>0.0</td>
</tr>
<tr>
<td>OMFR 5300 OMR Clinical Teaching</td>
<td>72</td>
<td>0.0</td>
</tr>
<tr>
<td>OMFR 5V01 Literature Review Journal Club</td>
<td>18</td>
<td>1.0</td>
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<tr>
<td>OMFR 5V06 OMR Clinical Radiology Service</td>
<td>296*</td>
<td>5.0</td>
</tr>
<tr>
<td>OMFR 5V20 Medical Clinical Radiol Serv @ BUMC</td>
<td>234*</td>
<td>4.0</td>
</tr>
<tr>
<td>OMFR 5010 Radiation Physics/Biology @ BUMC</td>
<td>18</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>661</strong>*</td>
<td><strong>10.0</strong></td>
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**OMFR Core Courses (Descriptions)**

- **OMFR 5020 CASE CONFERENCE**
  Case presentations of clinical cases encountered while on clinical radiology services. Students
will research the literature, present imaging studies, and discuss salient points relative to the diagnosis and management of specific disease entities. *Benson 0 sem hrs*

- **OMFR 5010 RADIATION PHYSICS, BIOLOGY, AND SAFETY**
  This course will provide instruction in radiation physics, advanced imaging technology, radiobiology, and radiation safety. The student/resident will develop the skills necessary to understand the scientific basis of imaging systems and successfully challenge the certification examination of the American Board of Oral and Maxillofacial Radiology. *Benson/Bruner 0 sem hrs*

- **OMFR 5200 ADVANCED PRINCIPLES OF INTERPRETATION**
  Advanced interpretation of oral and maxillofacial radiology imaging studies. Topics included recognition of normal anatomy and its variants, diseases, conditions, abnormalities as they appear radiographically. Skills in differential diagnosis based on radiographic findings will be developed, along with assessing the clinical significance of findings. *Liang/Flint/Benson 0 sem hrs*

- **OMFR 5210 ADVANCED IMAGING TECHNOLOGY**
  Advanced imaging technology in oral and maxillofacial radiology. Topics include acquisition techniques using ionizing radiation, nonionizing radiation, and other imaging modalities. Specific discussions will include plain radiographic image projections, panoramic radiology, cone beam computed tomography, multi-detector computed tomography, magnetic resonance imaging, nuclear medicine/molecular imaging, and ultrasonography, as well as imaging displays. *Flint/Liang/Benson 0 sem hrs*

- **OMFR 5250 ADVANCED ORAL RADIOLOGY**
  This course is intended to provide the student with an advanced review of medico-legal aspects of radiology, advanced interpretation principles, comparison and selection of digital imaging systems, advanced imaging techniques, and radiation risk. *Benson/Liang/Flint 1 sem hr*

- **OMFR 5300 CLINICAL TEACHING**
  Students/residents give clinical instruction in contact with second-, third- and fourth- year dental students. Four hours per week per semester of clinical instruction, including technical/acquisition, interpretation of imaging studies, and clinical significance of findings. *Benson/Liang/Flint 0 sem hrs*

- **OMFR 5V01 LITERATURE REVIEW / JOURNAL CLUB**
  Detailed review of recently published literature on all subjects related to oral and maxillofacial radiology; critical evaluation of the scientific literature; student assignment of recent and classical issues of selected journals for critical review of pertinent articles for scientific merit and clinical relevance. *Benson 0 sem hrs*

- **OMFR 5V06 CLINICAL ORAL AND MAXILLOFACIAL RADIOLOGY SERVICE**
This course will prepare the student/resident for the clinical practice of oral and maxillofacial radiology. The student/resident will develop the skills necessary to order, acquire, and interpret diagnostic imaging studies. This will include the formulation and dictation of interpretation reports and interactions with other health care professions and patients. Benson/Liang/Flint 1-5 sem hrs

• OMFR 5V20 CLINICAL MEDICAL RADIOLOGY SERVICE
This clinical course will familiarize the student/resident with the imaging modalities used in contemporary medical radiology and their application to diseases of the head and neck. The course includes specialty level modality selection, study acquisition, and interpretation. Benson/Opatowski 1-4 sem hrs

Courses Offered By Other Departments (Descriptions)

• BIMS 5221 RESEARCH DESIGN AND METHODOLOGY
Introduction of basic scientific concepts; development of research questions and hypotheses; formulation of research proposals and overview of research methods used in dentistry. Buschang 2 sem hrs

• BIMS 5222 APPLIED BIOSTATISTICS
Introduction to concepts and methods of descriptive and inferential statistics with applications in dentistry emphasized. Topics include descriptive statistics, elementary probability, comparison of means and proportions, confidence intervals, hypothesis testing, statistical power, simple linear regression and correlation. Parametric and nonparametric methods are discussed. More advanced methods (multiple regression, analysis of variance, logistic regression) are briefly described but not covered in detail. Applications and examples in dentistry are stressed throughout. Computer laboratory with emphasis on using statistical software is to be taken concurrently. Schneiderman 2 sem hrs

• BIMS 5V04 FUNCTIONAL HEAD AND NECK ANATOMY
Surgical anatomy and distribution of facial nerves and vasculature of particular interest in dentistry. Schneiderman 1.5 sem hrs

• HPED 5225 TEACHING SKILLS
Overview of teaching principles and methods, including instructional planning, test construction, designing and developing instructional materials, lecturing, clinical teaching, individualizing instruction, and evaluating teaching effectiveness. Lacy 1 sem hr

• OMFP 5V21 ADVANCED ORAL PATHOLOGY
Diseases of the head and neck; developmental malformations, oral signs of systemic diseases, salivary gland disorders; neoplasms of odontogenic and nonodontogenic origin; four quarter hours credit plus one additional hour for optional laboratory. Wright/Kessler 2-3 sem hrs

• ORTH 5108 ADVANCED CEPHALOMETRICS
Advanced topics relating to the cephalometric techniques are presented including superimposition, growth and treatment prediction, treatment assessment, consideration of error, orthognathic surgery treatment planning, and image enhancement techniques. *Buschang, faculty Buschang 1 sem hr*

U.S. Department of Education regulations (Federal Register [75 FR 66665 and FR 66832], October 2010) require institutions that participate in the student financial assistance programs authorized under Title IV of the Higher Education Act of 1965, as amended (the HEA), to report certain information about students who enrolled in Title IV-eligible educational programs that lead to gainful employment in a recognized occupation (GE Programs).

This data must include the name and U.S. Department of Labor’s Standard Occupational Classification (SOC) code, graduation rate, tuition and fees, book and supply costs, job placement rate and median loan debt for each program. The data pertaining to the Oral and Maxillofacial Radiology program may be reviewed at: [http://www.tamhsc.edu/education/finaid/forms1/oral-and-maxillofacial-radiology.html](http://www.tamhsc.edu/education/finaid/forms1/oral-and-maxillofacial-radiology.html)