

IMPORTANT: This syllabus form should be submitted to OAA (gsbs_academic_affairs@uth.tmc.edu) a week before the start of each semester.

NOTE to STUDENTS: If you need any accommodations related to attending/enrolling in this course, please contact one of the Graduate School's 504 Coordinators, Cheryl Spitzenberger or Natalie Sirisaengtaksin. We ask that you notify GSBS in advance (preferably at least 3 days before the start of the semester) so we can make appropriate arrangements.

<p>Term and Year: Spring 2024</p> <p>Course Number and Course Title: GS02 1031: Supervised Clinical Experience in Imaging Physics</p> <p>Credit Hours: 1</p> <p>Meeting Location: UT MDACC Main Building</p> <p>Building/Room#: FCT 14.5059 (Room 4)</p>	<p>Program Required Course: No</p> <p>Approval Code: Yes (If yes, the Course Director or the Course Designee will provide the approval code.)</p> <p>Audit Permitted: No</p> <p>Classes Begin: Jan 10, 2024</p> <p>Classes End: April 24, 2024</p> <p>Final Exam Week: N/A</p>
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Class Meeting Schedule

Day	Time
Wednesday (Observation or Exercise)	12:00

<p>Course Director</p> <p>Name and Degree: Chris Walker PhD</p> <p>Title: Assistant Professor</p> <p>Department: Imaging Physics</p> <p>Institution: MDACC</p> <p>Email Address: CMwalker@mdanderson.org</p> <p>Contact Number: 713-745-5619</p> <p>NOTE: Office hours are available by request. Please email me to arrange a time to meet.</p>	<p>Instructor/s (Use additional page as needed)</p> <ol style="list-style-type: none"> 1. Aaron Kyle Jones PhD Institution: MDACC Email Address : Kyle.Jones@mdanderson.org 2. William Geiser, MS Institution: MD Anderson Cancer Center Email Address : WGeiser@mdanderson.org 3. Moiz Ahmad, PhD. Institution: MDACC Email Address MAhmad@mdanderson.org 4. Chris Walker PhD Institution: MDACC Email Address: CMwalker@mdanderson.org
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5. Richard "Bud: Wendt, PhD

Institution: MDACC

Email Address: RWendt@mdanderson.org

Course Description: Gain a high-level understanding of clinical imaging physics operations through hands-on experience and clinical observation. Each week will focus on a different aspect of imaging physics focusing on clinical operations and observation. The course will culminate in an oral exam similar to the ABR part III exam.

Custom option: Gain focused understanding in select areas of imaging physics through tailored experiences and observation. This will be student initiated and require the student to submit a proposed set of goals and suggest a clinical mentor for the areas of focus.

Textbook/Supplemental Reading Materials (if any)

- N/A

Course Objective/s:

Upon successful completion of this course, students will
Gain a high-level understanding of clinical imaging physics operations through hands-on experience and clinical observation.

Specific Learning Objectives:

1. Participate in routine testing responsibilities of a clinical imaging physicist.
2. Familiarity with the daily operations of a radiology clinic and how an imaging physicist fits into that organization
3. Understand the basics of radiation and MRI safety and the practical aspects of its implementation.
4. Observe routine imaging protocol design and optimization, as well as grasp the basics of image quality and artifact troubleshooting.
5. Experience an oral exam format similar to the ABR board exam.

Student Responsibilities and Expectations:

1. Attend clinical operations observation sessions or focused clinical exercises (~4 hours).
2. Discuss weekly observations or labs with instructors to integrate them into the larger radiologic practice (~1 hour).
3. Apply their theoretical understanding of imaging physics to practical problems, like image artifacts or

dose estimations.

4. Review any relevant task groups or other standards of practice.
5. Understand the most critical elements from each week needed for the final examination.

Students will meet once a week for a four-hour observation or focused clinical exercise. The exact time of this will vary depending on clinical/equipment availability. If a focused exercise is performed, additional writeup or processing may be required. The students will meet a second time before the next assignment for a 1-hour wrap-up session where the observations or clinical exercise can be integrated into the larger area of clinical practice, as well as relating it to other similar activities that might not have been directly observed. Finally, the key points from the observations or exercise will be elucidated and reinforced. The course will culminate with an oral exam to give students the experience of that type of examination as well as allow them to express any clinical knowledge or experience gained.

Due to the multi-disciplinary nature of clinical imaging physics, a secondary path for this course will be offered. This path will be student initiated and collaboratively structured to allow the students to achieve their particular clinical experience goals. This will have a general structure similar to the general experience course but with the specific details of the course adapted to the student's clinical experience goals. Since this path of the course will be tailored to each student the student will need to provide material prior to obtaining approval to enroll.

Required Material:

1. Written proposal describing the depth and breadth of desired clinical experience and area(s) of focus.
2. Identification of primary mentor(s) for the clinical experience area(s).
3. Course outline with objectives and proposed schedule.

Grading System: Pass/Fail

Student Assessment and Grading Criteria : *(May include the following:)*

Percentage	Description
Participation and/or Attendance (100 %)	Attendance and participation in observations, labs, and the mock Oral Exam is expected.

CLASS SCHEDULE

Date	Duration (Hour(s) taught by lecturer)	Lecture Topic	Lecturer/s
1/17/2024	1 hrs.	Introduction, to couse	Chris Walker, Ph.D.
1/24/2024	4 hrs.	PACS & Displays	Chris Walker, Ph.D.
1/31/2024	4 hrs.	General Radiography	Moiz Ahmad, Ph.D.
2/7/2024	4 hrs.	Mammography	William Geiser, MS.
2/14/2024	4 hrs.	Ultrasound	Chris Walker, Ph.D.
2/21/2024	4 hrs.	MRI I	Chris Walker, Ph.D.
2/28/2024	4 hrs.	Computed Tomography I	Moiz Ahmad, Ph.D.
3/6/2024	4 hrs.	Nuclear Medicine	Richard Wendt, Ph.D.
3/20/2024	4 hrs.	PET	Richard Wendt, Ph.D.
3/27/2024	4 hrs.	Interventional Radiography	Aaron Kyle Jones, Ph.D.
4/3/2024	4 hrs.	MRI II	Chris Walker, Ph.D.
4/10/2024	4 hrs.	CT II	Moiz Ahmad, Ph.D.
4/17/2024	1 hrs.	Wrap-up and review	Chris Walker, Ph.D.
4/24/2024	1 hrs.	Oral Exam	Chris Walker, Ph.D.