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 accommodation related to attending/enrolling in this course, please contact one of the Graduate School's 504 Coordinators, Natalie Sirisaengtaksin, PhD. 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.

Term and Year: **Spring 2027** Course Number and Course Title: **GS02 1731: Medical Physics Ethics (Seminar)** **Credit Hours: 1** Meeting Location: **MDACC/Pickens Tower** Building/Room#: **FCT8.5013** **WebEx/Zoom Link: N/A**	**Program Required Course:** Yes **Approval Code:** No **Audit Permitted:** Yes **Classes Begin:** January 11, 2027 **Classes End:** April 30, 2027 **Final Exam Week:** May 3, 2027

Class Meeting Schedule

Day	Time
Thursday	**11am – 12 pm**

Course Director Name and Degree: **Julianne Pollard-Larkin, PhD** Title: Associate Professor Department: **Radiation Physics/Medical Physics Program** Institution: *MDACC* Email Address: jmpollard@mdanderson.org Contact Number: 832-817-9285 **Course Co-Director/s:** Name and Degree: **Mary Martel, PhD** Title: Professor, Chair Department: Radiation Physics Institution: *MDACC* Email Address: mmartel@mdanderson.org	**Instructors** 1. **Paige Taylor, MS** Institution: MDACC Email Address : pataylor@mdanderson.org 2. **Grace Smith, MD** Institution: MDACC Email Address : glsimth@mdanderson.org 3. **Paige Nitsch, MS** Institution: MDACC Email Address: plnitsch@mdanderson.org 4. **Peter Balter, PhD** Institution: MDACC Email Address: pabalter@mdanderson.org

Contact Number: 713-563-2530 **NOTE:** Office hours are available by request. Please email me to arrange a time to meet.	5. **Laurence Court, PhD** Institution: MDACC Email Address: lecourt@mdanderson.org 6. **Nicholas Olivieri, ME** Institution: MDACC Email Address: NDOlivieri@mdanderson.org 7. **Debbie Schofield, PhD** Institution: MDACC Email Address: DSchofield@mdanderson.org 8. **Kevin Casey, MS** Institution: MDACC Email Address: DSchofield@mdanderson.org

Course Description: This course is meant for Medical Physics trainees who aim to become professional medical physicists. The goals of this course are to cover the topics detailed in the American Association of Physicists in Medicine's (AAPM) Code of Ethics for medical physicists and to reinforce the values, professionalism and standards that medical physicists are held to.

Textbook/Supplemental Reading Materials (if any)

- **AAPM Task Group 109 Report**
- **"Quality and Safety in Radiotherapy" Edited by Todd Pawlicki, Peter Dunscombe, Arno J. Mundt, and Pierre Scalliet, 2011,** ISBN 9781439804360

Course Objective/s:

Upon successful completion of this course, students will have a firmer understanding of what professionalism means in relation to being a qualified medical physicist. Students will develop familiarity with AAPM's Code of Ethics and also learn the basics of quality and safety in radiotherapy.

***Specific Learning Objectives*:**

1. Learn the history of medical ethics and understand how it applies to medical physics.
2. Understand AAPM's Code of Ethics.
3. Learn about the different leadership styles, develop tools to determine self awareness and readiness for future leadership opportunities in the clinic or in the research space.

Student Responsibilities and Expectations

Students enrolled in this course are expected to participate in the group discussions during the lectures.

Beyond participating actively in the class discussions, students are expected to do the following:

1. Complete the 5 assigned RSNA/AAPM Physics modules on ethics and professionalism:
   a. RSNA/AAPM Physics Module: Ethics in Graduate and Resident Education (2021)
   b. RSNA/AAPM Physics Module: Historical Evolution and Principles of Medical Professionalism (2021)
   c. RSNA/AAPM Module: Ethics of Research (2021)
   d. RSNA/AAPM Module: Relationships with Vendors (2021)
   e. RSNA/AAPM Physics Module: Publication Ethics (2021)
2. Create and present a review of an article or youtube video on a professionalism topic

Grading System: **Pass/Fail**

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

Percentage	Description
Presentation (25 %)	In-class presentation of your review of a professionalism article or youtube video.
Homework (50 %)	Students must complete all 5 RSNA/AAPM Physics modules
Participation and/or Attendance (25 %)	Students must speak and participate during class discussions

CLASS SCHEDULE – Spring 2027

Date	Duration (Hour(s) taught by lecturer)	Lecture Topic	Lecturer/s
14-Jan	1	Introduction to Leadership, Ethics, Quality and Safety/ Syllabus Review	**Martel/Pollard-Larkin**
21-Jan	1	Leadership: Importance, Emotional Self-Awareness, and Listening	**Martel**
28-Jan	1	Professionalism and Ethics: History and Principles, Medical Physics Professionalism	**Pollard-Larkin**

4-Feb	1	Ethics: Effective Communication; Physicist-Patient and Physicist-Physicist Interactions, Human Subject Research (module), Ethics and Organizational Structure at MDACC	**Pollard-Larkin**
11-Feb	1	Physics Leadership at National Level, including Clinical Trials, QA, Task Groups	**Paige Taylor**
18-Feb	1	Academic and Extramural Leadership for Med Physicists, Discussion of Assigned Papers	**Martel/Grad Students**
25-Feb	1	Ethics: Personal Behavior, Peer Review and Contract Negotiations with Employers (module), Graduate and Resident Education (module)	**Paige Taylor**
4-Mar	1	Research Group Leadership Skills	**Court**
11-Mar	1	Human Factors: Work System Design, Safety Culture: High Reliability Organizations; Errors; Actions	**Smith/Nitsch**
25-Mar	1	Reporting Systems; Root Cause Analysis: Process Mapping	**Casey/Smith**
1-Apr	1	Ethics: Relationships with Vendors, Conflicts of Interest	**Balter**
8-Apr	1	Quality Methods: Indicators, Quality Audits, Credentialing, and Certification; Accreditation - TQM Program: Commissioning, QC and QA	**Schofield**
15-Apr	1	Quality Improvement: Six Sigma, Lean and Statistical Process Control	**Nicholas Olivieri**

JPL/jal