

GMS 5905
Graduate Seminar in Medical Physics
Spring 2022

Instructor: Manuel Arreola, PhD
arreom@radiology.ufl.edu

Textbooks: None

Sessions: 3:30PM - 4:20 Thursdays
 Room C1-17, Communicore

Date	Topic
Thursday, January 6	Cancelled
Thursday, January 13	Camilo Correa: Developing Computational Vasculature within Mesh Reference Adult Phantom for Radiotherapy Applications Sean Domal: Atomic Bomb Dosimetry of Pregnant Women and Factory Worker Cohorts
Thursday, January 20	Nathalie Correa: Direct Dose Measurements in Two Computed Tomography Scanners Comparing Single Energy and Dual-Energy Scans Megan Glassell: Skin Dose in Fluoroscopically-Guided Interventional Procedures
Thursday, January 27	Ed Stafford: Characterizing a Novel Large-Animal Robotic-Imaging Chain Colin Schaeffer: Theoretical Comparison and Optimization of CdTe and GaAs Photo-Counting Detectors for Contrast-Enhanced Spectral Mammography
Thursday, February 3	Wen-Chih Tseng: Developing an Ultra-Fast Dose Calculation Framework Using Deep Learning for Radiotherapy Jingxi Weng: Deep Learning Based Cine-MRI Image Prediction in Abdomen
Thursday, February 10	Dr Reza Forghani: Radiomics and Machine Learning: Fundamentals and Spectral CT & Neuroimaging Applications
Thursday, February 17	Amanda Jackson: Holographic Alignment, Choosing a Hologram and Establishing a System for Proton Therapy Zahra Razi: Human Tissue-Equivalent Quantitative MRI Phantom Preparation for 3T
Thursday, February 24	Ana Heshmat: Assessing Iodine Detection in DECT and SCT Bonnie President: 3D Reconstruction of Kidney Nephron Model from H&E-Stained Histology Slides
Thursday, March 3	Ronnie Bolden: Deployable Software for the Rapid Assessment of Lung Dose Following Radionuclide Intakes Rosette Gonzalez: Facial Recognition for Patient Identification using Mixed Reality
Thursday, March 10	No Class – Spring Break
Thursday, March 17	Jared Baggett: Construction of a Computational Polygon-Mesh-Type Phantom Library I Bobby Dawson: Construction of a Computational Polygon-Mesh-Type Phantom Library II
Thursday, March 24	Dr Wes Bolch: Secondary Primary Cancers Following Radiotherapy – An Update from the UNSCEAR Expert Group
Thursday, March 31	Keaton Reiners: DVH and Plan Quality Comparison Between Photon-Based Intensity Modulated Radiation Therapy and Proton-Based Pencil Beam Scanning Techniques in Lymphoma Patients Ryan Stephenson: Efficacy of Dual Energy in Large Animal Imaging System
Thursday, April 7	Hector Ramirez (<i>Medical Physics Program; Universidad Autonoma Metropolitana; Iztapalapa Mexico City</i>): MRI: In Vivo Cerebral Connectometry Study Based on the Diffusion Tensor: Obese vs Normal Weight Children Yunuen Rojas (<i>Medical Physics Program; Universidad Autonoma Metropolitana; Iztapalapa Mexico City</i>): MRI: fMRI Analysis - SPM
Thursday, April 14	Cristina Hernandez (<i>Medical Physics Program; Universidad Autonoma Metropolitana; Iztapalapa Mexico City</i>): Nuclear Medicine : Characterization of a Siemens Symbia SPECT Equipment with 177Lu and 99mTc Julian Uribe (<i>Medical Physics Program; Universidad Autonoma Metropolitana; Iztapalapa Mexico City</i>): Dosimetric Characterization of MicroDiamond Detector for Small Beams in Radiation Therapy- Preliminary Results

Policies:

Examinations: None

Course Grade:	Will be calculated as follows: <table> <tr> <td>Individual Presentation</td> <td>70%</td> </tr> <tr> <td>Timely Attendance</td> <td>20%</td> </tr> <tr> <td>Participation</td> <td>10%</td> </tr> </table>	Individual Presentation	70%	Timely Attendance	20%	Participation	10%
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Timely Attendance	20%						
Participation	10%						
Grading Scale:	93-100 A; 90-92 A-; 86-89 B+; 83-85 B; 80-82 B-; 76-79 C+; 73-75 C; 70-72 C- Grades will be curved						
Office Hours:	By appointment						
Academic Honesty:	All students are required to abide by the University's honesty policy as published in UF Rule 6C1-4.017. Students should be familiar with the entire rule which can be reviewed at: http://www.aa.ufl.edu/aa/Rules/4017.htm and specifically addresses cheating;						
Cheating:	The improper taking or tendering of any information or material which shall be used to determine academic credit. Taking of information includes, but is not limited to, copying graded homework assignments from another student; working together with another individual(s) on a take-home test or homework when not specifically permitted by the teacher; looking or attempting to look at another student's paper during an examination; looking or attempting to look at text or notes during an examination when not permitted. Tendering of information includes, but is not limited to, giving your work to another student to be used or copied; giving someone answers to exam questions either when the exam is being given or after having taken an exam; giving or selling a term paper or other written materials to another student; sharing information on a graded assignment.						
Class Attendance:	Students are expected to attend each class period. Periods which may be missed should be brought to the attention of the Instructor as far in advance of the class period as possible. In the event of an unexcused absence, it is the student's responsibility to obtain and review the material that was covered during that class period. Students must participate in each laboratory exercise.						
Make-up Labs & Assignments:	Make-up laboratory exercises and assignments will only be considered for exceptional circumstances and will be implemented by the instructor on a case-by-case basis.						
Class Demeanor:	Class distractions such as cell phones and pagers are unacceptable. Students will ensure that any such devices that are brought into the classroom will be turned off, or operated in a silent mode, during the class period.						
Students w/ Disabilities:	Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.						