

Spring 2023

Seminar in Translational Artificial Intelligence

GMS 5905; Section 44BH; 1 Credit

CLASS MEETING INFO

4:30PM-5:20PM Wednesdays
Communicore C1-017

INSTRUCTOR

Manuel Arreola, PhD; arreom@radiology.ufl.edu; 352.265.0293
Office Hours: By appointment

Reza Forghani, MD, PhD; r.forghani@ufl.edu; 352.265.0293
Office Hours: By appointment

TEACHING ASSISTANTS

N/A

PRE-REQUISITES/CO-REQUISITES

N/A

OBJECTIVES

To provide an in-depth overview of artificial intelligence and its potential impact on the healthcare enterprise, medical imaging, and the science of Medical Physics with emphasis on essential practical and translational aspects of AI applications in medical imaging.

REQUIRED TEXTBOOKS & SOFTWARE

N/A

MATERIALS AND SUPPLY FEES

N/A

RECOMMENDED MATERIALS

N/A

COURSE SCHEDULE

Week 1	Wed Jan 11, 2023	Dr Forghani	Health Informatics, Artificial Intelligence, and Internet of Things: A High Level Overview
Week 2	Wed Jan 18, 2023	TBA	TBA
Week 3	Wed Jan 25, 2023	Dr Maleki	Machine Learning Algorithm Generalizability
Week 4	Wed Feb 1, 2023	Dr Forghani	Pixel Based AI and "Imaging Omics": Texture Analysis, Radiomics, and Deep Neural Networks for Medical Image Analysis
Week 5	Wed Feb 8, 2023	Dr Coombs;	Imaging AI Algorithms for Use in Clinical Practice and the FDA Regulatory Process
Week 6	Wed Feb 15, 2023	Dr Forghani	Non-Pixel Based AI Applications
Week 7	Wed Feb 22, 2023	Dr Bryan	The Imitation Game: Computers and Radiologists
Week 8	Wed Mar 1, 2023	Dr Asadi	The Role of Multi-Modal Imaging and AI in Medical Data Assurance
Week 9	Wed Mar 8, 2023	Colin Schaeffer	AI: The Hype and Pitfalls Towards Translational Science
Week 10	Wed Mar 15, 2023	No Class	Spring Break
Week 11	Wed Mar 22, 2023	Dr Forghani	Applications of AI in the Radiology Roundtrip: Diagnostic Decision Support, Workflow Optimization, and Beyond
Week 12	Wed Mar 29, 2023	TBA	TBA
Week 13	Wed Apr 5, 2023	Dr Bian	What If? AI with Real-World Data: From Prediction to Intervention Modeling to Fairness and Disparities
Week 14	Wed Apr 12, 2023	Dr Erickson	Essentials of AI Deployment and Quality Assurance in Clinical Practice
Week 15	Wed Apr 19, 2023	Dr Tighe	AI Applications in Quality Assurance and Health Enterprise Operation Optimization
Week 16	Wed Apr 26, 2023	Dr Gupta	Artificial Intelligence in Neuroradiology, the Massachusetts General Hospital Experience

ATTENDANCE POLICY; CLASS EXPECTATIONS; MAKE-UP POLICY

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.

Excused absences must be consistent with university policies in the Graduate Catalog and require appropriate documentation:

<https://gradcatalog.ufl.edu/graduate/>

EVALUATION METHODS

Assignment	Total Points	Percentage of Final Grade
Timely Attendance	100	50%
Active Participation	100	50%
		Total: 100%

GRADING POLICY

Percent	Grade
93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-

67-69	D+
63-66	D
60-62	D-
59 & below	E

More information on the UF grading policy may be found in the UF Graduate Catalog: <https://gradcatalog.ufl.edu/graduate/>

STUDENTS REQUIRING ACCOMMODATIONS

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center: <https://disability.ufl.edu/get-started/>. Once registered, students will receive an accommodation letter which must be presented to, and discussed with, the instructor when requesting accommodation. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

UNIVERSITY HONESTY POLICY

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Student Conduct Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. If you have any questions or concerns, please consult with the instructor or TAs in this class.

SOFTWARE USE

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

STUDENT PRIVACY

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

CAMPUS RESOURCES

Health and Wellness

U Matter, We Care

Email: umatter@ufl.edu, Phone: 352-392-1575; Website: <https://umatter.ufl.edu/>

Counseling and Wellness Center

Phone: 352-392-1575; Website: <https://counseling.ufl.edu/>

Student Health Care Center:

Phone: 352-392-1161; Website: <https://shcc.ufl.edu/>

University Police Department

Phone: 352-392-1111 (or 911 for emergencies); Website: <http://www.police.ufl.edu/>

UF Health Shands Emergency Room/Trauma Center

Phone: 352-733-0111; Website: <https://ufhealth.org/emergency-room-trauma-center>

Location: 1515 SW Archer Road, Gainesville, FL, 32608

GatorWell Health Promotion Services

Phone: 352-273-4450; Website: <https://gatorwell.ufsa.ufl.edu/>

Academic Resources**E-learning Technical Support**

Email: helpdesk@ufl.edu; Phone: 352-392-4357; Website: <https://helpdesk.ufl.edu/>

Career Connections Center

Phone: 352-392-1601; Website: <https://career.ufl.edu/>

Location: Reitz Union, Suite 1300

Library Support

Website: <https://uflib.ufl.edu/>

Teaching Center

Phone: 352-392-2010 or 352-392-6420; Website: <https://teachingcenter.ufl.edu/>

Location: Broward Hall

Writing Studio

Phone: 352-846-1138; Website: <https://writing.ufl.edu/writing-studio/>

Location: 2215 Turlington Hall

Student Complaints (On-Campus)

Website: <https://sccr.dso.ufl.edu/policies/student-honor-%20code-student-conduct-code/>

Student Complaints (On-Line)

Website: <https://distance.ufl.edu/state-authorization-status/#student-complaint>