Molecules to Medicine

Molecules to Medicine (M2M) is a requirement for MS1 and MS2 students. Its objectives are to nurture scientific reasoning skills through critical analysis of journal articles and the underlying scientific method emphasizing rigor and reproducibility, to inspire students by reviewing landmark breakthroughs in biomedical investigation, and to improve presentation ability. Scientific topics are selected by the rising MS2s each year.

Course Director: Tonya Webb, PhD

M2M 2025-2026 Syllabus
Sessions optional for MS2 are noted with *

Date	Presentation	Faculty Mentor
8/21/2025	Course Introduction	**Achsah Keegan, PhD** **Tonya Webb, PhD**
Topic 1: Antidepressant		**Maged M. Harraz, MBBCh, MS, PhD**
9/18/2025	Session 1A: Faculty Introduction	
10/9/2025	Session 1B: Paper Discussion	
Topic 2: mRNA Vaccines and Drug Delivery		**Matt Frieman, PhD**
10/16/2025	Session 2A: Faculty Introduction	
11/20/2025	Session 2B: Paper Discussion	
Topic 3: Protein Engineering and Drug Discovery		**Wenbo Yu, PhD**
12/4/2025	Session 3A: Faculty Introduction	
12/11/2025	Session 3B: Paper Discussion	
1/8/2026	Mentor Selection and Career Development Choices*	**Mary-Claire Roghmann, MD, MS**
Topic 4: Gene Editing/CRISPR		**Alex Poulopoulos, PhD**
1/15/2026	Session 4A: Faculty Introduction	
1/29/2026	Session 4B: Paper Discussion	
2/5/2026	Methodology/ Experimental Design and Approach	
2/26/2026	Grant Writing 101	
3/5/2026	Grant Review Discussion (AHA, F31, BWF, K01/K99)	
3/26/2026	Rigor and Reproducibility in Research*	**Kaylin Adipietro, PhD**
4/2/2026	Center for Innovative Biomedical Resources Introduction and Tour*	**Nick Ambulous, PhD**