Fall 2023
Advanced Topics on Magnetic Resonance Imaging
BME1466
Institute of Biomaterials and Biomedical Engineering
University of Toronto

Instructor:	Hai-Ling Margaret Cheng, 661 University Avenue, Rm. 1433
	hailing.cheng@utoronto.ca
Teaching Assistant:	TBD
	TBD@mail.utoronto.ca

Course Description

This graduate level course is intended to provide an in-depth coverage on the theory, practice, and applications of magnetic resonance imaging (MRI). Applications in cardiovascular and oncological imaging, amongst others, will be investigated, as well as the MR imaging techniques, pulse sequences, and contrast agents appropriate to different applications. The format is based on a combinatorial lecture/literature research approach.

Learning Objectives

- Understand fundamental physics of nuclear magnetic resonance and magnetic resonance imaging
- Become familiar with the most advanced MRI methods and their applications. These include cardiac MRI, perfusion MRI, metabolic MRI, rapid MRI, and contrast agents/molecular imaging.
- Prepare a comprehensive literature review article on one of the special topics.

Lectures

Monday	10:00 am – 12:00 pm	BA 2179	(LEC 01)

Composition of Final Mark

Class participation	10%
Weekly journal review	40%
Term project	50% (presentation 20%, written report 30%)

Course Policies

- Assignments from weekly journal reviews must be submitted on the date they are due. Late submissions will be assigned a mark of 0.

- **Accommodations**: If you have a disability/health consideration that may require accommodations, please feel free to approach Accessibility Services at (416) 978 8060 or accessibility.services@utoronto.ca.

- **Academic integrity**: all students, faculty, and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of

academic honesty when writing assignments, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism – representing someone else's work as your own or submitting work that you have previously submitted for marks in another class or program – is a serious offence that can result in sanctions. Speak to me for advice on anything that you find unclear. To learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see that U of T Academic Integrity website.