

# Biomedical Physics

MSc/PhD

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# Biomedical Physics

If you are looking for a challenging career with a positive social impact, this is it. Biomedical Physics is an exciting, cutting-edge, multidisciplinary field in which MSc and PhD graduate degrees lead to a career in research, biomedical technology or clinical medical physics. Graduate students seeking to enter a medical physics residency program may pursue a CAMPEP accreditation in Medical Physics, which distinguishes our programs.

## Research Areas

### Medical Imaging

- Magnetic Resonance Imaging
- Optical Imaging
- Photoacoustic Imaging
- Radiation Therapy and Treatment Planning
- Ultrasound Imaging

### Treatment Modalities

- Laser Therapies
- Minimally Invasive Therapies
- Nanoparticle Mediated Therapies/Theranostics

### Computational and Mathematical Physics

- Computational Modelling of Imaging and Therapy Systems
- Physical Modelling in Biology, Immunology and Ecology

### Health Physics

- Toxic and Trace Element Detection in Humans

## Sample Courses

- Advanced Imaging
- Anatomy and Physiology
- Biomedical Ultrasound
- Computational Methods in Biomedical Physics
- Fundamentals of Radiation Physics
- Medical Diagnostics Techniques
- Radiation Therapy
- Radiobiology

## Admissions Information

### MSc

- Completion of a 4-year bachelor's degree in physics, engineering, engineering physics or other related discipline
- Minimum GPA or equivalent of 3.00/4.33 (B) overall with 3.33/4.33 (B+) average in the last two years of study
- Two letters of recommendation, one of which must be academic

### PhD

- Completion of a master's degree in physics, engineering or a related discipline
- Minimum GPA or equivalent of 3.67/4.33 (A-) in all courses credited towards master's degree
- Clear evidence of research potential
- Two letters of recommendation, one of which must be academic

Applicants may be required to provide certification of English language proficiency. For more information, visit [www.ryerson.ca/graduate/futurestudents/admissions/english-language.html](http://www.ryerson.ca/graduate/futurestudents/admissions/english-language.html).

## Resources

- Advanced Biomedical Ultrasound Imaging and Therapy Lab
- Cell Culture Lab
- Magneto-Acoustic Imaging Lab
- Optics Lab
- Opto-Acoustic Imaging Lab
- WDXRF Lab

## At a Glance

**8:1**

MSc applicant: seat ratio

**≥\$21K**

yearly MSc funding

**≥\$25K**

yearly PhD funding

**45%**

graduates pursue advanced degrees



**“The most exciting part of my research is the potential that bench discoveries will one day impact the delivery of health care as well as advance basic science. Ryerson provides the ideal scientific and academic incubator for success and innovation.”**

– Eno Hysi, PhD candidate

### **International Students**

International Student Services (ISS) provides comprehensive support for the international student community at Ryerson.

[www.ryerson.ca/internationalservices](http://www.ryerson.ca/internationalservices)

### **Program Contact**

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