

Aerospace Engineering

MASc / MEng / PMDip / PhD

www.ryerson.ca/graduate



Aerospace Engineering

This program focuses on the intellectual development of graduate students within the field of aerospace engineering. Students will further develop critical and independent thinking throughout the wide spectrum of graduate courses offered. Located in the George Vari Engineering and Computing Centre, a state-of-the-art building in the heart of downtown Toronto, the Department of Aerospace Engineering has garnered an esteemed reputation, due in part to its partnerships with industry, and its contribution to the development of strategic plans for promoting the growth of the aerospace industry on provincial, national and international levels.

Research Areas

- Aeroelasticity, unsteady, MAV and applied aerodynamics, nonlinear dynamics and chaos, fluid-structure interactions
- Aircraft conceptual design, multidisciplinary design optimization
- Composite materials, fiber metal laminates, high temperature fatigue, materials characterization
- Computational structural and mathematical fluid dynamics, vibrations, mesh-reduction methods, intact/defective aerospace composite structures
- Cooling of gas turbine blades, thermal management in aerospace systems
- Design optimization, fluid-structure interaction, noise propagation
- Fatigue, stress and high temperature testing, aerospace structures, manufacturing, materials and composites
- Flight mechanics
- Flight vehicle design and analysis
- Guidance, navigation and control of space systems, UAVs
- Mechatronics, macro/micro hybrid systems, design and control integration
- Powerless flights
- Robotics, control and aircraft systems
- Short pulsed laser nano/micromachining, laser material interaction, synthesis of nanomaterial, nanomaterials for photovoltaic conversion
- Spacecraft orbit, dynamics, and attitude estimation and formation control, sun sensors, star trackers, sensor processing, rover navigation
- Urban wind power generation

Admissions Information

MASc	<ul style="list-style-type: none">• Completion of a 4-year bachelor's degree in aerospace engineering or a related field• Minimum GPA or equivalent of 3.33/4.33 (B+) in the last two years of study
MEng	<ul style="list-style-type: none">• Completion of a 4-year bachelor's degree in aerospace engineering or a related field• Minimum GPA or equivalent of 3.00/4.33 (B) in the last two years of study
PMDip	<ul style="list-style-type: none">• Completion of a 4-year bachelor's degree in aerospace engineering or a related field• Minimum GPA or equivalent of 3.33/4.33 (B+) in the last two years of study
PhD	<ul style="list-style-type: none">• Completion of a master's degree in a related engineering or applied science field• Minimum grade point average (GPA) or equivalent of 3.33/4.33 (B+)

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

Resources

- Flight Mechanics and Flight Simulation, Thermal Management
- FRAMES Components and Materials Testing
- High-Speed Gas Dynamics, Propulsion
- Inflatable Space Structures
- Manufacturing, Robotics/Micro Manufacturing, Stress Analysis
- Nanofabrication, Vibrations
- Satellite Attitude Control, Satellite Design and Management
- Small and Large Subsonic Wind Tunnels
- Space Avionics and Instrumentation, Space Electronics and Integration
- Systems and Control, Vision Management, Avionics and Systems

At a Glance

2

Canada
Research Chairs

21

state-of-the-art
research labs

9

active industry
partnerships



Photo credit: Alton Yeung

“The master’s program has given me the opportunity to tackle research projects with engaging faculty and industry partners to solve real-world design problems. Ryerson offers an immersive experience that makes me feel like I’ll be leaving my footprint in the aerospace industry.”

– Tim Carroll, MAsc student

International Students

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

www.ryerson.ca/internationalservices

Program Contact

aerograd@ryerson.ca

416-979-5000, ext. 2790

Yeates School of Graduate Studies

Ryerson University

350 Victoria St.

Toronto, ON M5B 2K3

Canada

www.ryerson.ca/graduate