



**SMITH  
ENGINEERING**  
Queen's University

**Mechanical and  
Materials Engineering**

STEPHEN J.R. SMITH FACULTY OF ENGINEERING AND APPLIED SCIENCE AT QUEEN'S  
UNIVERSITY

Teaching Fellow Position  
Academic Year 2024-2025

Posting Date: June 1, 2024

Closing Date: June 30, 2024

The Department of Mechanical and Materials Engineering at Queen's University invites applications from suitably qualified candidates interested in teaching the following core second year undergraduate course in the 2024/25 session.

MECH 229 Kinematics and Dynamics  
September 1, 2024 - December 31, 2024

**Qualifications:**

Current enrollment in the PhD program in Mechanical Engineering or related field at Queen's University. Previous educational background and/or experience must be suited to teaching the course described below. Candidates must have excellent communication and presentation skills as proven with prior experience, as well as being capable of working as a member of a teaching team. Previous teaching experience at the University level, specifically large lecture-based engineering courses is considered an asset. Registration as a Professional Engineer, or eligibility to acquire registration in Canada, would be a strong asset.

**Course Description:**

Units: K3.5

This course will cover the following topics in the field of dynamics. Kinematics of particles: planar and three-dimensional motion (rectilinear, curvilinear), choosing a coordinate system, conversions between systems, space curvilinear motion using vector derivatives, free and constrained paths, relative motion between particles. Kinetics of systems of particles: generalized Newton's Second Law, work and energy, impulse and momentum, conservation of energy and momentum, impact. Students will solve dynamics problems analytically and computationally in an active learning environment.

K3.5 (Lec: No, Lab: Yes, Tut: No)

Prerequisites: APSC 111, APSC 171

CEAB Units:

Mathematics 0, Natural Sciences 11, Complementary Studies 0, Eng Science 31, Eng Design 0

**Course Details:**

This course involves in-person delivery of two 2-hour active learning session per week for twelve weeks.

Expected Enrolment (subject to change): 140 students.

The successful applicant will have 100% percent responsibility for this course. Graduate teaching assistants will be assigned to assist with tutorials and marking. Discussion with your graduate program supervisor should be obtained prior to application.

The University invites applications from all qualified individuals. Queen's is strongly committed to employment equity, diversity and inclusion in the workplace and encourages applications from Black, racialized/visible minority and Indigenous people, women, persons with disabilities, and 2SLGBTQ+ persons.

Teaching Fellows at Queen's University are governed by a [Collective Agreement](#) between the University and the Public Service Alliance of Canada 901, Unit 1.

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs. If you require accommodation during the interview process, please contact [mmeadmin@queensu.ca](mailto:mmeadmin@queensu.ca).

In accordance with Canadian immigration requirements, Canadian citizens and permanent residents of Canada will be given priority, including any qualified individuals who have a valid legal work status in Canada. Please indicate in your application if you have a valid legal work status in Canada. Applications that do not include this information will be deemed incomplete. Applications from all qualified candidates will be considered in the applicant pool.

Applications should include a complete and current curriculum vitae, a copy of your "unofficial" transcript, a statement of teaching experience, the names and contact details of two referees who may be contacted, and any other relevant materials the candidate wishes to submit for consideration. Applications can be submitted to the MME Appointments Committee at the address below, or by e-mail to [mmeadmin@queensu.ca](mailto:mmeadmin@queensu.ca). Applications should arrive no later than June 30, 2024 at 11:59pm.

Mechanical and Materials Engineering (MME) Appointments Committee  
Department of Mechanical and Materials Engineering  
McLaughlin Hall, Room 201  
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