

**University of Toronto**  
**AEROSPACE PROGRAMME**  
*Job Posting - Course Instructor Position*  
**Winter Term 2023 (January – April)**

Posted on August 5, 2022

The Aerospace Programme seeks 1 Course Instructor for the following course:

**ROB313H1S – INTRO TO LEARNING FROM DATA**

*This course will introduce students to the topic of machine learning, which is key to the design of intelligent systems and gaining actionable insights from datasets that arise in computational science and engineering. The course will cover the theoretical foundations of this topic as well as computational aspects of algorithms for unsupervised and supervised learning. The topics to be covered include: The learning problem, clustering and k-means, principal component analysis, linear regression and classification, generalized linear models, bias-variance tradeoff, regularization methods, maximum likelihood estimation, kernel methods, the representer theorem, radial basis functions, support vector machines for regression and classification, an introduction to the theory of generalization, feedforward neural networks, stochastic gradient descent, ensemble learning, model selection and validation.*

**Qualifications**

An academic background in machine learning and computational/numerical methods studies is required. An undergraduate degree in Aerospace Engineering, and graduate research in the area are also required. Successful completion of the graduate course AER1416H "Numerical methods for uncertainty quantification" is a definite advantage.

Knowledge in robotics and mechatronics is a further requirement.

**Relevant Criterion**

The need to acquire experience is the more relevant criterion than past teaching experience in respect of this posted position.

**Duties**

- Developing syllabus and preparing lectures
- Teaching twice weekly, Wednesday 1pm-3pm and Thursdays 12pm-3pm
- Conducting scheduled office hours for academic counselling of students
- Leading tutorials or laboratories/practicals
- Evaluation of tests and the final examination

*Duties of this position shall be performed at the campus on which the position is located.*

**Estimate of TA Support:** 70 hours

**Estimated Course Enrolment:** 60 students

**Rate of Pay:** \$8,061.89 (per half course excludes vacation pay) or \$9,033.05 (per half course excludes vacation pay) if first CI appointment.

**Application Process**

Applicants should submit a cover letter, C.V. (including previous teaching evaluations (if applicable)), and a list of references by **August 26, 2022**. Applications should be sent to:

**Carmela Versace, Manager**  
Institute for Aerospace Studies  
4925 Dufferin Street  
Toronto, ON M3H 5T6  
E-Mail: [manager@utias.utoronto.ca](mailto:manager@utias.utoronto.ca)

The University strives to be an equitable and inclusive community, and proactively seeks to increase diversity among its community members. Our values regarding equity and diversity are linked with our unwavering commitment to excellence in the pursuit of our academic mission. The University is committed to the principles of the Accessibility for Ontarians with Disabilities Act (AODA). As such, we strive to make our recruitment, assessment and selection processes as accessible as possible and provide accommodations as required for applicants with disabilities. If you require any accommodations at any point during the application and hiring process, please contact [uoft.careers@utoronto.ca](mailto:uoft.careers@utoronto.ca). During employment, to request accommodation from the University, contact the supervisor or department chair and/or Health & Wellbeing Programs & Services at [hwb@utoronto.ca](mailto:hwb@utoronto.ca). For more information about accommodations at U of T, please visit our Accommodation webpage.

The hiring criteria for Course Instructors positions are academic qualifications, the need to acquire experience, previous teaching experience and previous satisfactory employment under the provisions of this Collective Agreement.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ2S+ persons, and others who may contribute to the further diversification of ideas.

Candidates who are members of Indigenous, Black, racialized and LGBTQ2S+ communities, persons with disabilities, and other equity seeking groups are encouraged to apply, and their lived experience shall be taken into consideration as applicable to the position.

This job is posted in accordance with the CUPE 3902 Unit 1 Collective Agreement.

The position(s) posted above is (are) tentative, pending final course determinations and enrolments.

Positions posted here are open to Graduate Students in the School of Graduate Studies, Postdoctoral Fellows and Undergraduate Students in the University of Toronto.