Summer 2022 Initial TA postings

Physical and Environmental Sciences - Undergraduate

Department of Physical and Environmental Sciences - Undergraduate

University of Toronto Scarborough

Summer 2022 Teaching Assistant positions

CUPE3902 UNIT 1

Posted On: Mar 02, 2022

APPLICATION DEADLINE: Mar 29, 2022

University of Toronto Scarborough

DEPARTMENT OF PHYSICAL; ENVIRONMENTAL SCIENCES

SUMMER 2022 TEACHING ASSISTANT POSITIONS

CUPE3902 UNIT 1

Posted On: Mar 02, 2022

APPLICATION DEADLINE: Mar 29, 2022

Each position, as well as the final number of hours for each position, will be dependent on the final enrolment numbers and available financial resources. The Chair of the Department will make any and all offers of employment on behalf of the Dept. of Physical and Environmental Sciences. No other offers or notices of the outcome of the applications are authorized.

Course Code, Title, Description	Course Enrollment (est.)	Number of Positions (est.)	Size of Appointment in Hours(est.)	Qualifications	Duties
CHMA11H3 Introductory Chemistry II: Reactions and Mechanisms This course quantitatively examines reactions and equilibria in chemical systems with an emphasis on their thermodynamic properties and chemical kinetics. The course begins with a close	175	1 to 4	58	A B.Sc. in chemistry, or relevant discipline, is required. The positions are also open to undergraduate chemistry students at UTSC who have demonstrated a sound knowledge of the relevant subject matter and who have the ability and responsible nature to facilitate learning among peers. Previous experience is the more relevant criterion than the	Attending training and weekly organizational meetings with supervisor. Completing the WHMIS training. Reading the lab manual and relevant material to prepare the pre-lab talk for each experiment. Supervising approximately 24 students in the laboratory. Evaluating student preparation and

examination of solutions followed by dynamic chemical equilibrium. This leads directly to acid/base and solubility equilibria and thermochemistry, including calorimetry. The course concludes with thermodynamics, kinetics and electrochemistry with a strong emphasis on the how these are connected to Gibbs Free Energy. This course includes a three hour laboratory every other week.				need to acquire experience in respect of this posted position.	performance. Holding office hours at Chemistry drop in center and grading peer-reviewed writing assignments based on the rubric provided by the instructor. Marking lab notebooks and lab reports according to the marking scheme that is supplied by the supervisor. Maintaining attendance and marks records.
CHMA11H3 Introductory Chemistry II: Reactions and Mechanisms This course quantitatively examines reactions and equilibria in chemical systems with an emphasis on their thermodynamic properties and chemical kinetics. The course begins with a close examination of solutions followed by dynamic chemical equilibrium. This leads directly to acid/base and solubility equilibria and thermochemistry, including calorimetry. The course concludes with thermodynamics, kinetics and electrochemistry with a strong emphasis on the how these are connected to Gibbs Free Energy. This course includes a three hour laboratory every other week.	175	1	25	A B.Sc. in chemistry, or relevant discipline, is required. The positions are also open to undergraduate chemistry students at UTSC who have demonstrated a sound knowledge of the relevant subject matter and who have the ability and responsible nature to facilitate learning among peers. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	Preparing for and running weekly online tutorials (which will also be recorded). Facilitating discussions and answering student questions. Guiding students through concepts related to lectures, as needed, and reviewing solutions to questions.
CHMB16H3 Techniques in Analytical Chemistry An introduction to the principles and methods of classical analysis and the provision of practical experience in analytical laboratory techniques. The course deals primarily with quantitative chemical analysis. Classical methods of volumetric analysis, sampling techniques, statistical handling of data are studied, as well as a brief introduction to spectro-chemical methods. This course includes a four hour laboratory every week.	48	1 to 3	70	BSc in Chemistry or related discipline, with preference given to graduate students whose research involves some analytical chemistry. At least one undergraduate course in analytical chemistry with a minimum grade of 75%. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	The TA will be expected to prepare for in-person labs. The TA will be assisting students by demonstrating proper techniques and supporting student learning by engaging in discussions in the lab. The TA will be expected to grade lab notebooks and post-lab report sheets in a timely manner and enter grades online. The TA will also have occasional meetings with the course instructor.

CHMB42H3 Organic Chemistry II This course builds on the topics seen in Organic Chemistry I. Major reactions include electrophilic and nucleophilic aromatic substitutions, and the chemistry of carbonyl compounds. Spectroscopic methods for structure determination are explored (NMR, MS, IR), along with the chemistry of biologically important molecules such as heterocycles and carbohydrates. This course includes a four-hour laboratory every other week, as well as weekly one-hour tutorials.	120	1 to 3	60	Must have completed at least one third-year organic chemistry course, with a laboratory component. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	May include; demonstrating and setting up laboratories; grading quizzes, data sheets, laboratory notebooks, products and results; keeping marks records; invigilating term tests and final exams; meeting with the supervisor, completing the WHMIS training.
CHMB42H3 Organic Chemistry II This course builds on the topics seen in Organic Chemistry I. Major reactions include electrophilic and nucleophilic aromatic substitutions, and the chemistry of carbonyl compounds. Spectroscopic methods for structure determination are explored (NMR, MS, IR), along with the chemistry of biologically important molecules such as heterocycles and carbohydrates. This course includes a four-hour laboratory every other week, as well as weekly one-hour tutorials.	120	1 to 3	25	Must have completed at least one third-year organic chemistry course, with a laboratory component. A minimum A- grade in second-year organic chemistry. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	Running weekly tutorials where students work through graded problem sets in small groups, answering student questions and delivering short lessons at the board as needed to address common questions/misconceptions, grading group problem sets and individual quizzes, recording marks, meeting with the supervisor.
EESA06H3 Introduction to Planet Earth This general interest course explores the composition, structure and origin of the Earth and the tectonic, chemical and biological processes that have evolved over the last 4.5 billion years. It explains how planet "works" as a complex system. It provides a fundamental basis for understanding many of the environmental challenges faced by human societies especially natural hazards, water shortages, and climate change, and the importance of natural resources to our economy.	350	1 to 4	70	Candidate must have experience of geoscience practice and be familiar with global plate tectonic theory as it applies to the geologic history of Ontario and Canada and past supercontinents. A detailed knowledge of and demonstrated experience with mineralogy and petrology, Quaternary glacial environments and environmental geoscience issues revolving around groundwater, permafrost and resource extraction is essential. Applicants must have hands-on experience with using Geoscience Quercus modules. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	Administering and grading tutorials, invigilating exams, office hours.

EESA09H3 Wind A survey of the science, history and applications of wind. Topics include storms including hurricanes, tornadoes and mid-latitude cyclones, global circulation, local circulations, measurement of winds, impact of winds on land surfaces, wind power, winds and pollution, historical and literary winds, and contemporary wind research. No prior knowledge of environmental science is required.	300	1 to 2	75	Enrollment as a PhD student in Environmental Science with a meteorology or climatology focus. It is expected that the candidate will have familiarity with the weather and climate system and its processes. Previous work experience as a teaching assistant for EESA09 would be considered. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	Marking, recording keeping, Web page updating, Weather Station Tours, Invigilation. The duties will include also learning and get familiar with the TopHat.
EESA10H3 Human Health and the Environment Because of pollution, our surroundings are becoming increasingly hazardous to our health. The past century has seen intense industrialization characterized by the widespread production and use of chemicals and the intentional and unintentional disposal of a wide range of waste materials. This course explores the relationship between the incidence of disease in human populations and the environmental pollution. Emphasis will be placed on understanding where and what pollutants are produced, how they are taken up by humans and their long term effects on health; the role of naturally-occurring carcinogens will also be examined. The course will include a view of risk assessment and toxicology using case studies. No prior knowledge of environmental or medical science is required.	290	1 to 2	70	Enrolment as a Graduate Student or academic qualifications, appropriate background in environmental sciences, environmental toxicology and/or environmental epidemiology. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	Duties for this position include preparing the marking scheme, holding office hours, tutoring students in person and/or electronically, grading students' assignments, using Quercus for marking and marks' management.
EESD33H Field Techniques This course consists of a series of modules designed for students to gain practical skills necessary to investigate and characterize complex environmental systems. Field projects will allow students to collect scientific data that they will use to interpret the geology, hydrogeology, and chemistry of natural and anthropogenic environments.	30	1	80	Candidate must have experience of geoscience practice and be familiar with concepts in hydrogeology and geomorphology. Field methods taught include: surveying techniques, coring/ logging/sampling; monitoring well installation, aquifer pump test and analysis, groundwater-surface water interaction; and geophysics. As such, familiarity with geoscience field techniques is highly desirable. The successful applicant will help the instructor with all the fieldwork and grade field assignments. The	Duties for this position include assisting the instructor with the fieldwork; supervising students in the field; tutoring students in person, in the field and/or electronically; grading students' assignments and managing marks.

				course will run in the first 2-3 weeks in May. Previous experience is the more relevant criterion than the need to acquire experience in respect of this posted position.	

Department Standards and Policies are available in the Department office and in the CUPE, Local 3902 Unit 1 office. The position(s) posted above is (are) tentative, pending final course determinations, enrolments and available resources. Late applications will not be accepted. All positions include the completion of any regular course grading not completed by, August 31, 2022 for Summer, December 31, 2022 for Fall courses and April 30, 2023 for S and Y courses. The following rates apply: Undergraduate $47.17 per hour, SGS I $47.17 per hour, SGS II $47.17 per hour. Please note that should rates stipulated in the collective agreement vary from rates stated in this posting, the rates stated in the collective agreement shall prevail. The rate of pay is established by the Collective Agreement between Canadian Union of Public Employees (CUPE), Local 3902 Unit 1 and the University of Toronto. These jobs are posted in accordance with the CUPE3902 Unit 1 Collective Agreement, It is understood that some announcements of vacancies are tentative, pending final course determination and enrolment; If during the application and/or selection process you require accommodation due to a disability, please contact Annie Kostadinova at a.kostadinova@utoronto.ca or 416-287-7195;

Duties of this position shall be performed at the campus on which the position is located; Where the duties are intended to be performed at another location such other location will be specified in the posting. The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from visible minority group members, women, Aboriginal persons, persons with disabilities, members of sexual minority groups, and others who may contribute to the further diversification of ideas.

Check our website for detailed information on the application procedure at

https://www.utsc.utoronto.ca/webapps/cupehiring/

Although a graduate student preference as to the campus location of his/her TA appointment will be taken into account, both the initial TA appointment (or CI appointment) and the subsequent appointment obligation related to that appointment may be met through position(s) on any one of the three University campuses (UTM, UTSC or St. George).

Please apply online:

https://www.utsc.utoronto.ca/webapps/cupehiring/