

Department of Bioresource Engineering – Teaching Assistantships – Fall 2023
Département de génie des bioressources- Assistances d'enseignement - automne 2023

These postings are directed to graduate students who will be registered at McGill University in the Fall 2023 semester. Applications from others will not be considered.

Ces postes s'adressent aux étudiants diplômés qui seront inscrits à l'Université McGill au cours du semestre d'automne 2023. Les candidatures d'autres personnes ne seront pas prises en considérations.

Application for these courses should be completed in Workday (<https://www.mcgill.ca/hr/careers>). Students who are currently employed should apply as internal candidates; students who are not currently employed should apply as external candidates. You must be a McGill graduate student to be eligible to apply, and must be eligible to work in Canada.

Les candidatures à ces cours doivent être remplies dans Workday (<https://www.mcgill.ca/hr/careers>). Les étudiants qui sont actuellement employés doivent postuler en tant que candidats internes; les étudiants qui ne sont pas actuellement employés doivent postuler en tant que candidats externes. Vous devez être un étudiant diplômés à l'Université McGill pour être admissible, et doivent être autorisés à travailler au Canada.

Teaching Assistants may be required to perform tasks suited to a remote/online teaching environment using a virtual learning platform [e.g., Zoom, WebEx] and the McGill myCourses learning management system. Must be available to work the entire contract period.

Les auxiliaires d'enseignement peuvent être appelés à effectuer des tâches adaptées à un environnement d'enseignement à distance/en ligne à l'aide d'une plateforme d'apprentissage virtuel [p. ex., Zoom, WebEx] et du système de gestion de l'apprentissage McGill myCourses. Ils doivent être disponibles pour travailler pendant toute la durée du contrat.

Fall 2023 Application period: May 31 – June 21, 2023

Job start and end dates: August 30, 2023 to December 21, 2023

Course	#	Course Name	Instructor	# Jobs	# Hours	Start Date	End Date	Job Description & Course Schedule	Qualifications
AECH	110	General Chemistry 1	Alice Cherestes	4	45 each TA	Aug 30	Dec 21	<p>Preparation of all experimental solutions and instrumental setup for laboratory sessions. Enforce safety rules during the laboratory sessions. Guide students during laboratory sessions on completion of experiment and usage of correct techniques. Participation in tutorial sessions, presenting laboratory and course related issues and problems. Grade lab reports and quizzes, enter grades on MyCourses, and provide feedback to students on the LMS system. Invigilation of midterm exams, final exams and exam viewing sessions.</p> <p>Lecture: MW 8:35-9:55 Lab: RF 2:35-5:25 & F 8:35-11:25 Tutorial: M 10:05-10:55</p>	<p>Proven mastery of Introductory Chemistry course material and lab techniques. Proof of successful completion of one year of General/Analytical Chemistry at the undergraduate or graduate level; good interpersonal skills for relating to new UO students; punctual, strong organizational skills, conscientious, responsible, initiative in the right circumstances. Minimum requirement (under)graduate degree in chemically-related sciences (preferably with higher-level chemistry courses with significant laboratory components), with credit for a General/Analytical Chemistry course equivalent to this one. Strong knowledge of laboratory safety procedures, hazardous material disposal and WHIMIS training required. Previous TA experience an asset. Language requirements: Fluent in English (spoken, written, comprehension) required; French an asset.</p>
AEMA	202	Intermediate Calculus	Fernando Altamura	1	45	Aug 30	Dec 21	<p>Grade different course assessments (assignments/quizzes, midterms, and final exam). Maintain an active email communication with the students, answering questions and providing feedback on written work. Provide help in other facets of the course including updating the course webpage (myCourses), delivering exam-viewing sessions, and assisting with the invigilation of assessments.</p> <p>Lecture: TR 8:35-9:55</p>	<p>A qualified candidate must meet the following criteria: completed an undergraduate degree in physical sciences or engineering, completed Calculus 3 (AEMA 202 or equivalent), demonstrated knowledge of multivariate calculus and series, can commit to follow directions and to conform to guidelines (including meeting deadlines), has strong time-management skills and a meticulous attention to detail, has exceptional oral and written communication skills, can be available in-person at the Macdonald campus every day, if needed. An ideal candidate would also meet the following criteria: has</p>

								Conference: M 1:05-1:55	previous experience as a TA, has completed additional (higher level) mathematics courses, is proficient with the myCourses learning management system and Crowdmark, has experience grading high volume of written work.
AEPH	112 113	Introductory Physics 1 & Physics 1	David Titley-Peloquin	2	90 each TA	Aug 30	Dec 21	Preparation of all experimental solutions and instrumental setup for laboratory sessions. Guide students during laboratory sessions on completion of experiment and usage of correct techniques. Participation in tutorial sessions, presenting laboratory and course related issues and problems. Grade lab reports and quizzes, enter grades on MyCourses, and provide feedback to students on the LMS system. Invigilation of midterm exams, final exams and exam viewing sessions. Lecture: M 2:35-3:55 & R 10:05-11:25 Lab: TW 1:35-3:25 & 3:35-5:25 Tutorial: TR 8:35-9:55	Proven mastery of introductory physics course material. Good interpersonal skills for relating to new UO students; punctual, strong organizational skills, conscientious, responsible, initiative in the right circumstances. Minimum requirement of an undergraduate degree in physical sciences or engineering (preferably with higher level physical science courses), with credit for an equivalent course to this one. Language requirements: Fluent in English (spoken, written, comprehension) required; French an asset.
BREE	210	Mechanical Analysis & Design	Benjamin Goldstein	1	50	Aug 30	Dec 21	Coordinate and conduct project sessions and tutorials. Grade class assignments. May assist in teaching limited class sessions. Lecture: MW 4:05-5:25 Lab: F 2:35-4:25	Good background in engineering. Candidates must have sufficient knowledge of engineering mechanical principles.
BREE	216	Bioresource Engineering Materials	Miezah Kwofie	1	80	Aug 30	Dec 21	Grade class assignments and grade class lab report. Lecture: MW 10:05-11:25 Lab: R 11:35-1:25 & 2:35-4:25	Knowledge of the properties of engineering materials. Experience in arc and gas welding, machine shop operation (lathe and metal machining). TA experience an asset. Language requirement: English. Demonstrated experience with the use of a virtual learning platform (e.g., Zoom, WebEx) to meet with the students.
BREE	252	Computing for Engineers	Shiv Prasher / David Titley-Peloquin	2	55 each TA	Aug 30	Dec 21	Assist in supervising computing laboratories. Grade class assignments (10 sets per semester). Proctor midterm and final exams. Prepare and present one lecture and an accompanying practical lab on an applied aspect of engineering computation. Lecture: MW 11:35-12:55 Lab: F 8:35-11:25 & 11:35-2:25	Familiarity with structured programming methods. Proficiency in MATLAB, MS Office, and familiarity with computer hardware. Language requirements: Fluent English; French an asset.
BREE	305	Fluid Mechanics	Idaresit Ekaette, Vijaya Raghavan	1	60	Aug 30	Dec 21	Prepare and grade assignments. MyCourses management. Managing and uploading Zoom class recordings. Answering students for queries on assignments and other course materials. Preparing for the lab sessions online. Lecture: MTR 4:35-5:25 Lab : M 2:35-4:25	Previous experience with Fluid Mechanics course. Good knowledge on fluid mechanics principles and problems. Previous TA experience. Language requirements: Knowledge of English and French.
BREE	312	Electric Circuits and Machines	Shangpeng Sun	1	60	Aug 30	Dec 21	Grading tests and assignments, quizzes, tests, and/or projects (both analytical and with a possible Matlab component). Assistance with lab facilitation, student tutoring, assist with tutorials. Enter grades and provide feedback to students on the LMS system. Lecture: WF 10:05-11:25 Lab: R 2:35-4:25	Formal coursework on electrical circuits, electrical machines and/or related subjects, hands-on experience in wiring proper electrical circuitry used through projects associated with bioresource engineering discipline, knowledge of safety measures when connecting and operating electrical circuits and machines.
BREE	319	Engineering Mathematics	David Titley-Peloquin	1	45	Aug 30	Dec 21	Grade quizzes and projects (both written and with possible Matlab components). Assist with tutorials	Proven mastery of advanced engineering mathematics course material. Fluent with Matlab functions relevant to the material at this level. Good interpersonal skills for

								and invigilation of quizzes and tests, and final exam. Enter grades on MyCourses. Lecture MW 08:35 am-09:55 am Conference R 01:05 pm-01:55 pm	relating to students; punctual, strong organizational skills, conscientious, responsible, initiative in the right circumstances. Minimum requirement of an undergraduate degree in physical sciences or engineering (preferably with higher-level mathematics courses), with credit for an equivalent course to this one. Language requirements: Fluent in English (spoken, written, comprehension) required; French an asset.
BREE	322	Organic Waste Management	Grant Clark	1	45	Aug 30	Dec 21	Grade individual assignments and group projects. Assist with management of the course website on MyCourses (course management platform). Assist with the development and curation of online instruction materials, assignments, and quizzes. May prepare and deliver a few online lectures and tutorials. Lecture TR 08:35 am-09:55 am Laboratory T 03:35 pm-05:25 pm	The candidate must have good knowledge of environmental engineering and an understanding of the organic waste management industry. Demonstrated experience with the use of virtual learning and course management platforms (e.g. Zoom, MyCourses) to prepare and deliver course material is an asset.
BREE	324 325	Elements of Food Engineering 324 and 325 share 1 TA	Michael Ngadi	1	45	Aug 30	Dec 21	Coordinate and conduct laboratory sessions for the cross-listed courses. Grade class assignments. May conduct tutorial or assist in teaching limited class sessions. Lecture WF 08:35 am-09:55 am Laboratory R 02:35 pm-05:25 pm	Good knowledge of food engineering. Candidates must have sufficient background or must have taken any of the following courses: Food Engineering, Heat and Mass Transfer, Unit Operations, or similar courses. Language requirements: English. Demonstrated experience with the use of virtual learning and course management platforms (e.g. Zoom, MyCourses) to prepare and deliver course material is an asset.
BREE	327	Bio-Environmental Engineering	Benjamin Goldstein	1	50	Aug 30	Dec 21	Grade class assignments. Prepare and supervise exercises. Prepare and supervise class projects. Tutor students on the content of lectures and lab exercises. Lecture TR 11:35 am-12:55 pm Laboratory TBA	Good knowledge and background on energy systems, ecology processes, and biological systems. Experience on biofuels or alternative energy systems. Good communication skills and patience. Previous experience with BREE 327 is preferred. Language requirements: English and some French.
BREE	412	Machinery Systems Engineering	Vijaya Raghavan	1	45	Aug 30	Dec 21	Prepare laboratory equipment. Grade exam papers and reports. Coordinate with Macdonald Campus Farm personnel on use of equipment. Coordinate with Shop facilities for teaching and demonstrate the use or function of equipment or its component parts in labs. Lecture WF 08:35 am-09:55 am Lab F 11:35 am-02:25 pm	Familiarity with design and functions of agricultural machinery. Experience in preparing effective PowerPoint presentations. Proficient in using the Zoom video conferencing platform. Language requirements: English (written and spoken).
BREE	415	Design of Machines and Structural Elements	Hamid Akbarzadeh	1	75	Aug 30	Dec 21	Assistance in the instruction of the tutorials, correction of assignments and quizzes. Lecture M 1:05-2:25 & W 11:35-12:55 Lab M 3:35-5:25	Knowledge of the theory of machine design. Sound knowledge of physics of structural materials, vector analysis, failure theories, finite element analysis, etc. Adequate flexibility in work time. Language requirements: Proficient in spoken English. Demonstrated experience with the use of virtual learning and course management platforms (e.g. Zoom, MyCourses) to prepare and deliver course material is an asset.
BREE	485	Undergraduate and Graduate Student Seminars	Michael Ngadi	1	50	Aug 30	Dec 21	Course numbers BREE 485, 486, 651, 652, 751, 752, 753, 754: Collecting information, developing and distributing seminar announcements, sorting through evaluation forms and entering the data in Excel.	Graduate student with all seminar requirements completed, proficiency with Excel and experience dealing with data forms. Demonstrated experience with the use of virtual learning and course management platforms (e.g. Zoom, MyCourses) to prepare and deliver course material is an asset.

								Undergraduate Seminar: R 10:05-11:25 Graduate Seminar: R 10:05-11:25 Graduate Conference: MF 2:35-4:25	
BREE	504	Instrumentation and Control	Shangpeng Sun / Viacheslav Adamchuk	1	60	Aug 30	Dec 21	Grade individual papers and group projects. Aid in running group activities during class and laboratory sections. Lecture M 9:35-10:55 & R 11:35-12:55 Lab: M 11:05-12:55	Familiarity with LabView and Arduino programming environments, knowledge of electrical circuits and fundamentals of instrumentation and controls, experience with GPS data structure and some typical sensor systems used in bioresource engineering, ability to lead step-by-step tutorials on LabView and Arduino using zoom and/or alternative distance education tools. Language requirements: English (written and spoken).
BREE	510	Watershed Systems Management	Jan Adamowski	1	45	Aug 30	Dec 21	Grade individual papers and group projects. Aid in running group activities during class. Lecture: M 10:05-12:55 Tutorial: TBA	Extensive knowledge of concepts, methodologies and tools in the areas of participatory, integrated, and adaptive water resources management. Only applicants with detailed knowledge of these topics (obtained through courses in these topics) need apply. Must be an excellent writer in English, and be able to provide detailed corrections (in terms of grammar, sentence structure, etc.) for lengthy student papers. Only students who are able to provide detailed comments (for lengthy papers) need apply.
BREE	529	GIS for Natural Resource Management	Viacheslav Adamchuk / J.A. Cardille	1	75	Aug 30	Dec 21	Manage training data. Teach one laboratory session per week. Consult with term project teams. Grade assignments. Lecture WF 01:35 pm-02:25 pm Laboratory R 01:35 pm-03:25 pm	Deep understanding of ESRI ArcGIS software, including geostatistical toolbox, familiarity with remote sensing image processing, experience with both vector and raster data as well as with model builder, ability to lead step-by-step tutorials on ArcGIS using zoom and/or alternative distance education tools. Language requirements: English (written and spoken) and some French. Demonstrated experience with the use of virtual learning and course management platforms (e.g. Zoom, MyCourses) to prepare and deliver course material is an asset.
BREE	533	Water Quality Management	Zhiming Qi	1	70	Aug 30	Dec 21	Assist in organizing field projects for student groups (10-15 groups of 3-5 students): Interaction with instructors and students to administer and enforce timelines for planning and completion of field work, lab work, project reports. Advise groups on soil/water sampling, lab sample analysis, data collection and analysis. Orchestrate equipment loans for sampling, field measurements, etc. Assist with coordinating field trips and proctor exams. Lecture TR 08:35 am-09:55 am Laboratory T 02:35 pm-05:25 pm	Good grounding in the theory of water quality; strong skills in computer modeling for water quality management, experience in water quality analysis.
FMT4	003	Information Management	Simon Brault	1	60	Aug 30	Dec 21	Grade weekly assignments and midterm exams. Attend labs to answer questions. Lecture R 8:35-9:25 Lab R 9:35-11:25 & 11:35-1:25	Knowledge of Office Suite (Word, Excel, PowerPoint). Basic understanding of DOS and computer hardware. Language requirements: English and some French. Demonstrated experience with the use of a virtual learning platform (e.g., Zoom, myCourse, WebEx) to prepare and assist with remote delivery of course material.
FMT4	020	Conservation of Soil and Water	Chandra Madramootoo	1	60	Aug 30	Dec 21	Grade quizzes, assignments, and lab projects. Assist with labs, invigilation of quizzes and grading of final project report. Answer student questions about assignments and labs. Assist to put lecture and material on myCourses. Lecture W 10:35-1:25 & R 10:35-12:25	Proven mastery of irrigation, drainage, hydrology, soil and water conservation, field engineering. Good interpersonal skills for relating to students; punctual, strong communication skills, conscientious, responsible, initiative in the right circumstances. Field experience in soil and water conservation, and hydrology. Minimum requirement of an undergraduate degree in engineering

									(with specialization in soil and water). Demonstrated experience with the use of virtual learning and course management platforms (e.g. Zoom, MyCourses) to prepare and deliver course material is an asset.
FMT4	022	Equipment Management	Marc-André Isabelle TBA	1	55	Aug 30	Dec 21	To assist student in completing their assignments and studying for exams and quizzes. Correct assignments, quizzes and term papers. Assist with management of myCourses. Lecture M 1:35-3:25 Lab T 1:35-5:25	Knowledge of and familiarity with agricultural machinery and cropping systems typically used in eastern Canada. Can communicate effectively via email. Practical experience operating field equipment on large-scale commercial farms would be considered an asset. Posses a good knowledge of Excel for correcting assignment completed using this software. Language requirements: Proficient in English, written and spoken, and working knowledge of French