University of Toronto Scarborough
Department of Physical and Environmental Sciences
EESD33H3 (2018) – Field Techniques

Lead Instructor: Mandy Meriano
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Objectives: This course is designed to teach a number of fundamental field concepts and methodologies. The course objectives are to allow students to explore and experiment with a variety of quantitative and qualitative methods for collecting environmental data. Field and laboratory work are coordinated to reinforce concepts in geology, hydrogeology, and chemistry - and the process of real world data collection and analysis. The course is a requirement of the Association of Professional Geoscientists of Ontario (APGO) for obtaining Professional Geoscientist (P.Geo) Certification.

Learning objectives: By the end of this course students will have developed the practical skills necessary to successfully investigate and characterize surface and subsurface systems, use state-of-the-art techniques for soil/water sampling, monitoring and evaluation of surface and groundwater systems – with particular consideration to contaminated systems, aquifer testing, surface/groundwater interactions and geophysical techniques.

Schedule: Detailed schedule will be provided closer to the start of the course. Please be aware that some last-minute changes may occur. Students should check the schedule for complete meeting locations, dates, and times.

Assignments: Depending on course enrollment, the class will be divided into two large teams (Teams A & B) and further divided into smaller groups of 3-4 individuals. The course will include individual and group assignments and a final team project. Each student must complete all of the assignments, and the data should be shared where appropriate. The primary objectives of the field exercises are to ensure that every student has the opportunity to gain practical/hands-on field experience and that every student gets to collect field data to use in his/her assignments.

Below is a list of the assignments, their value and tentative due dates (*see Schedule for updates*). The group or individual nature of the assignments will be announced at the start of the course.

Assignment	Value (%)	Contact Person	Due Date
Differential Survey	10	Mandy Meriano	TBA
Hydrogeologic Mapping and Site Characterization	10		TBA
Drilling, Coring, Logging, Slug Test	10	Mandy Meriano	TBA
Surface water/Groundwater Interaction and creek profiling	20	Mandy Meriano	TBA
Geophysics	20	Mike Doughty, Mandy Meriano	TBA
Pumping Test and Analysis	20	Mandy Meriano	TBA
Inorganic Geochemistry	10	Mandy Meriano, Tony Adamo	TBA
Total	**100**		

Assignments are to be handed to the TA (Sahlla Abbasi). A box will be set up on the 2nd floor of the Environmental Science and Chemistry Building for your convenience.

Late Assignments: Late penalty will be 10%/day for up to 5-days (maximum of 50% penalty). Later assignments (> 5-days late) will not be accepted.

Extensions, Missed Work and Absences: Requests for an extension on an assignment or missing any part of the field course must be submitted in writing three business days in advance of the due date. In instances of illness, an official UTSC medical note must be completed by a doctor who examined you while you were l;;/injured (i.e., not after the fact). The medical note can be downloaded at: http://www.utsc.utoronto.ca/registrar/verification-illness-or-injury. Note that conditions ranked as mild or negligible will not be considered a valid excuse.

Late or Misplaced Assignments: It is your responsibility to keep a photocopy of your work, and to make more than one digital copy of your work. Excuses are not accepted in the case of lost or misplaced work.

TA:
Sahlla Abbasi, sahlla.abbasi@mail.utoronto.ca

Computer Lab: The computer lab in the H-Wing (BV469) will be used for the pumping test data analysis.

Chemistry Lab: The Environmental Science (EV244) and the TRACES Laboratories (EV215) will be used for inorganic chemistry sample preparations and to demonstrate the various methods of analysis.

Accessibility: Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodation, please feel free to approach me as early as possible and I will do my best to find appropriate accommodation. I will work with Access*Ability* Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC Access*Ability* Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.