



GOAL

Introduce practices of geology (earth science) methods and approaches

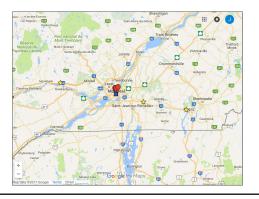


LAB-BASED LEARNING

ASSIGNMENT	DUE DATE	MARKS	
First outcrop description	Mon Sept 10	feedback	
Pace & compass exercise	Mon Sept 17	5%	
Sand quarry exercise	Mon Sept 24	10%	
Topographic map on Mt Royal	Wed Oct 3	5%	
3D info from geologic maps	Wed Oct 10	5%	
Geology in 3D - sketching w/ Covo and Mellin	Wed Oct 17	5%	
Plutonic and metamorphic rocks (Grenville trip)	Mon Oct 29	10%	
Metasediments and folds (Magog-Sutton trip)	Mon Nov 5	10%	
Hammer seismics exercise	Wed Nov 7	10%	
Volcanic rocks on Île Ste-Hélène	Wed Nov 14	10%	
Landforms with Google Earth	Wed Nov 21	5%	
Cross section & 3-point problem	Mon Nov 26	5%	
Geology of Québec presentation	Wed Nov 28	5%	
Geology of Québec report	Tue Dec 4	15%	

	Week	Date	Lecture/Lab	Due today
PROGRAM		Sept 3	No lecture (Labour Day)	The state of the s
	1.	Sept 5	Intro to the course & first outcrop description	
		Septo	(meet in FDA 348, then we'll walk up to Mt Royal)	
	2.	Sept 10	Geological maps, scale & orientation measurements	Turn in first outcrop description in notebooks (for feedback only)
		Sept 12	Pace & compass exercise, using geologic compass (meet in FDA 348, then we'll walk to centre of campus)	
	-	Sept 17	Describing and measuring sediments	Pace & compass lab (5%)
	3.	Sept 19	Sand quarry trip = Sediments description & Quaternary geology (vans depart from FDA Courtyard at 1:35 sharp)	
		Sept 24	Topographic & geological maps	Sand quarry trip report (10%)
	4.	Sept 26	Topographic map reading with GPS (meet in FDA 348 or at Mt Royal cemetery, Chemin Remembrance & Voie Camillen-Houde)	
		Oct 1	No lecture (classes cancelled for Québec election day)	
	5.	Oct 3	Extracting 3D info from geologic maps (in FDA 348)	Topographic map lab (5%)
		Oct 8	No lecture (Thanksolving)	
	6.	Oct 10	Geology in 3D lab: Sketching & observing on Mt Royal (w) David Covo and Robert Mellin)	3D info from geologic maps (5%)
		Oct 15	Igneous and metamorphic rocks	
	7	Oct 17	No lab (replaced by trip on Saturday)	Geology in 3D lab (5%)
	/-	Oct 20	Grenville field trip - Gneisses, scariness and granite (Whole day trip - meet 9 am at Milton Gates)	
		Oct 22	Introduction to deformation structures	
	8	Oct 24	No lab (replaced by trip on Saturday)	
	°	Oct 27	Magog-Sutton field trip - Slates, greenstone, folds (Whole day trip - meet 8:30 am at Milton Gates)	
		Oct 29	Folds and interpretation using stereonets	Grenville trip report (10%)
	9.	Oct 31	Shallow subsurface geophysics: Hammer seismics (meet in FDA 348, then we'll walk to centre of campus)	
		Nov 5	Volcanic rocks and diatremes	Magog-Sutton trip report (10%)
	10.	Nov 7	Volcanic rocks on lie Sainte Hélène (Metro field trip! Meet in FDA 348, or at 2:30 pm at parking lot P13. Parc Jean Drapeau)	Hammer seismics lab (10%)
		Nov 12	Landforms - Relating to bedrock geology and surface processes	
	11.	Nov 14	Google Earth lab - Landforms and interpretation (In FDA 348)	Île Sainte Hélène trip report (10%
	-	Nov 19	Intro to plate tectonics	
	12.	Nov 21	Cross section & 3-point problem (in FDA 348)	Google Earth landforms lab (5%)
		Nov 26	Geology of Québec	Cross section lab (5%)
	13.	Nov 28	Geology of Québec presentations (in FDA 348)	Geology of Québec presentation
		Dec 3	No lecture	(3%)
	14.	Dec 4	Last day of classes	Geology of Québec report (15%)
		Dec 5	No lab	

FIELD LOCATIONS



ALL-DAY TRIPS

WEEKS 7 (and/or 4) & 8

- Week 4 option:
 - Île-Perrot, all day Sat Sept 28
 - Instead of sand quarry trip on Wed Sept 19
- Week 7 & 8 options:
 - All day Wednesday, Friday or Saturday
 - Week 7: October 17, 19, 20
 - Week 8: October 24, 26, 27

VOTE ON MONDAY

OFFICE HOURS

· Kirsten's office: FDA 344

• Office hours: Mon 2:30-3:30

TA office hours TBD

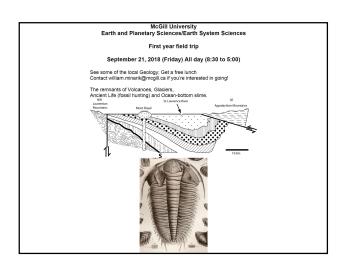
• Thu/Fri/Mon 11:30-12:30?

OTHER LOGISTICS

Monday:

- Field notebooks DUE (first outcrop description)
- Textbook (\$20)
- Introduce term project Geology of Québec





THIS AFTERNOON

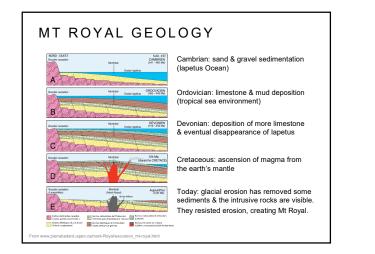
3 TYPES OF ROCKS 1. Sedimentary: Form from erosion (clastic) or dissolved minerals in water (chemical) • Clastic - Particles of sand, gravel, mud (sediments) from erosion are cemented together in layers (beds) Examples: Sandstone, mudstone • Chemical - Material from mineral-saturated water is deposited in beds Examples: Limestone, chert 2. Igneous: Form from cooling magma trapped underground (intrusive) or erupted at the surface (extrusive/volcanic) Examples: Granite, basalt 3. Metamorphic: Under high temperature & pressure, rocks re-form with new fabrics and minerals Examples: Schist, marble TODAY: Sedimentary & igneous

LIMESTONE CAVERN

Link to news article with video:

https://www.cbc.ca/news/canada/montreal/montreal-underground-passage-1.4428833?cmp=news-digests-canada-and-world-evening

Link to YouTube video shown in class: https://www.youtube.com/watch?v=ufg00WWUPZ4



THIS AFTERNOON

