

## **Earth Sciences 3314B, Sedimentary Petrology**

**Instructor:** O. Al-Mufti      Rm. G10 WSC or Rm. 1077 B&G      oalmufti@uwo.ca

**Teaching Assistants:** Steve Morrow; smorro@uwo.ca

Anika Ballent; aballent@uwo.ca

**Lectures:** Monday & Wednesday 11:30 – 12:30 B&G Rm. 0165

**Labs:** Section 002: Wednesday 2:30 – 5:30 B&G Rm. 1065

Section 003: Monday 6:00 – 9:00 B&G Rm. 1065

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**Description:** Identification and description of various types of siliciclastic and carbonate rocks; sedimentary textures and geochemical composition; sedimentary structures and depositional environments; diagenetic and weathering processes that alter original properties of primary sediments.

**Prerequisites:** Earth Sciences 2200a/b, Earth Sciences 2206a/b

**Statement on Requisites:** Unless you have either the requisites for this course or written special permission from your Academic Counselor to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

## COURSE SYLLABUS

### Approximate Class Schedule (possible slight change as term progresses)

Lecture	Main Topics	Lab Exercises*
Jan 4.	Introduction, sedimentary rock classification, textures	Sedimentary rocks: Textures, Structures, Classification
Jan 6.	Overview of sedimentary structures	
Jan 11.	Siliciclastics: sandstones, conglomerates	Petrography of clastics I
Jan 13.	Siliciclastics: mudrocks	
Jan 18.	Siliciclastics: diagenesis	Petrography of clastics II
Jan 20.	Siliciclastics: diagenesis II	
Jan 25.	Siliciclastics: depositional environments I	Clastic rock exercise: part I
Jan 27.	Siliciclastics: depositional environments II	
Feb 1.	Provenance	Clastic rock exercise: part II
Feb 3.	Composition of limestones	
Feb 8.	Classification of limestones	Clastic rock exercise: part III
Feb 10.	Mid Term Exam, <b>10<sup>th</sup> Feb., 1 hour</b>	
<b>Reading week February 15-19</b>		
Feb 22.	Carbonates: diagenesis	Petrography of carbonates: non-skeletal grains
Feb 24.	Carbonates: dolomite & dolomitization	
Feb 29.	Carbonates: depositional environments I	Petrography of carbonates: skeletal grains
Mar 2.	Carbonates: depositional environments II	
Mar 7.	<b>PDAC: lecture &amp; lab cancelled</b>	
Mar 9.	Evaporites	
Mar 14.	Cherts, siliceous rocks	Carbonate rock exercise: part I
Mar 16.	Sedimentary iron deposits	
Mar 21.	Sedimentary phosphate deposits	Carbonate rock exercise: part II
Mar 23.	Volcaniclastics	
Mar 28.	Coal, petroleum	Carbonate rock exercise: part III
Mar 30.	Petrographic techniques	
Apr 4.	Catch-up time.	Oral presentations
Apr 6.	Review	

\*All lab assignments are due at the end of the lab period, except for the 3-week clastic and carbonate rock exercises: these exercises are due at the end of the third week

### COURSE MATERIALS

Any sedimentology textbook can be used as a resource, but none are required.

### METHODS OF EVALUATION

Mid-term exam 1 hour (Feb 10<sup>th</sup>): 20%

Final exam 2 hours (date TBA): 40%

Oral presentation (April 4<sup>th</sup> and 6<sup>th</sup>): 10%

Lab assignments: 30%

*No electronic devices are permitted during any examination or test.*

**Scholastic offences** are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

<http://www.uwo.ca/univsec/handbook/appeals/scholoff.pdf>

**Plagiarism** is a serious academic offence. The UWO Senate Academic Handbook defines

plagiarism as "The act of appropriating the literary composition of another, or parts or passages of his writings, or the ideas or language of the same, and passing them off as the product of one's own mind." Students must write their assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using proper referencing such as citations. For more information see Scholastic Offence Policy in the Western Academic Calendar.

If you are unable to meet a course requirement due to **illness** or other serious circumstances, you must provide valid medical or other supporting documentation to the Academic Counseling office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Academic Counseling Office immediately. For further information please see:  
<http://www.uwo.ca/univsec/handbook/appeals/medical.pdf>

A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Records Release Form (located in the Academic Counselling office) for visits to Student Health Services. The form can be found here:  
[https://studentservices.uwo.ca/secure/medical\\_document.pdf](https://studentservices.uwo.ca/secure/medical_document.pdf)

### **Accessibility Statement**

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x.82147 for any specific question regarding an accommodation.

### **Support Services**

Students who are in emotional or mental distress should refer to mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

Registrarial Services are available at: <http://www.registrar.uwo.ca/>, and Student Support Services are listed at <http://westernusc.ca/services/>