

## **ESS 381S/3604S Meteorites and Space - Winter 2017**

**Lectures** Monday 10am-12pm ROM 3B13

**Instructor** Kim Tait (ktait@rom.on.ca) Office: Rm. ESC 4101 (U of T) 3B02A (ROM)

**Office Hours** E-mail me for a time.

**Course Website** Blackboard

**No required textbooks.**

### **Useful Texts:**

*Meteorites and their Parent Planets, 2<sup>nd</sup> Ed. Harry Y. McSween, Jr.*

*The Cambridge Encyclopedia of Meteorites, O. Richard Norton*

### **Evaluation:**

Assignment I (10%) Week 6: Due February 13<sup>th</sup>

Paper (15%) Week 7: Due February 27<sup>th</sup>

Test (10%) Week 10: March 20<sup>th</sup>

Abstract (15%) Week 10: Due March 20<sup>th</sup>

Assignment II (15%) Week 11: Due March 27<sup>th</sup>

Individual (ESS 3604S)/Group project presentation (ESS 381S) (20%): Week 12: April 3<sup>rd</sup>

Participation (10%) ongoing.

Science communication (5%): ongoing.

There will be no midterm or final exam.

### **About the course**

This course will introduce students to the basics of extraterrestrial materials, planetary formation and space exploration. We will start with the story told in 'presolar' grains of dust, and discuss different types of chondrites and achondrites (including the moon and Mars). Several space exploration missions are ongoing or being planned, we'll explore some of the latest projects and perhaps meet a few scientists working on missions. This course will be focused on mineralogy of meteorites, so students will have opportunities to look at meteorite samples and even "type" (describe for the first time) a meteorite of their own and submit to the Nomenclature Committee. This course will be taught at the ROM in the brand new learning lab in the mineralogy and meteorite collection space. This will be the first time this course is taught and we'll take advantage of the 132" screen and conferencing capabilities as well as the collections making this a very interactive and hands-on course.

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or Accessibility Services at (416) 978 8060; [accessibility.utoronto.ca](http://accessibility.utoronto.ca)

**Assignment I/II** (10 and 15%):

There will be two opportunities to classify new meteorites. Each assignment will involve different analytical tools at the ROM and University of Toronto. The assignments will involve thin-section descriptions, collecting analytical data, synthesizing the data and preparing a summary report to the Nomenclature Committee for their review, as well as summary of the sample in a report form, submitted to Professor Tait in class on their respective due dates.

**Term paper** (15%):

Students will be expected to write an 8-10 page paper on an assigned meteorite group or meteorite-related topic.

**Test** (10%):

The test will 1 hour long. It will cover material taught in lectures up to and including March 13th, and will focus on lecture material.

**Abstract** (15%):

As part of the group project, students will be required to prepare an abstract for the Geological Association of Canada/Mineralogical Association of Canada meeting. The abstract should be a maximum of 400 words using plain 10 point text. A contest for the best abstract submission will be discussed.

**Individual and Group project presentations** (20%):

Students will summarize their assigned sample in some format for presentation—to be discussed with the class.

**Participation** (10%):

It is expected that you attend this class each week. There will be in-class discussions, hands-on materials and demonstrations that will not be able to recreate for absent students. I will expect students to be prepared for class with assigned readings, and engage in discussions. We will have several 'guest lecturers' skyping in, with opportunities to engage with the class.

**Science communication** (5%):

Science communication is becoming more and more important. As part of this course, I will have students participate in several social media platforms (Twitter, Snapchat,

Instagram etc.) to discuss the course in interesting ways. In museum participation opportunities may exist as well.

Late assignments: A penalty of 5% per day (to a maximum of 7 days, then 0 will be given on the assignment).

### **Policy on Missed Tests or Lab Exercises and Missed Assignment Deadlines**

1. There are no makeup exams for mid-term examinations.
2. Late submissions will not be marked and default to grade of 0. The deciding date is the date stamp when the assignment is received by the front desk.

Missed tests, missed lab exercises and missed assignment deadlines will only be excused for cases in which the absence was entirely beyond the student's control (e.g., medical reasons, personal affliction), and only if the proper documentation is submitted.

If your petition is accepted, you will be pro-rated on the missed assignment/test (i.e. you will be given a mark which is equal to your average course mark).

**To request that your test/assignment is being pro-rated, please register your petition by getting the link on blackboard.**

We will consider all requests which are received within 5 business days of the missed assignment (the University is open during Reading Week).

Note, that reasons involving personal commitments such as vacation travel arrangements are not considered legitimate grounds for missing tests and that we reserve to the right request further documentation (e.g., a doctor's note etc).

If your petition is successful, you (and your instructor) will be informed by e-mail.

### **Academic Misconduct**

Academic misconduct takes a number of forms. Every student should read the code of behaviour on academic matters

<http://www.artsandscience.utoronto.ca/ofr/calendar/rules.htm>.

The instructor reserves the right to strongly penalize those people engaged in academic misconduct under the University's rules and regulations.

#### **1) Plagiarism and concocted references**

Plagiarism is the most common offence. Plagiarism includes failing to cite sources or to cite them accurately AND/OR failing to place within quotation marks material taken verbatim from a source, regardless of whether the material is acknowledged with a citation. **Failure to use quotation marks is an academic offence.** The inclusion of false, misleading, or concocted references is an offence. Students should see "How not to Plagiarize" by M. Procter (Coordinator, Writing Support, U of T [www.utoronto.ca/writing](http://www.utoronto.ca/writing)). Students can obtain additional information at the writing website <http://www.utoronto.ca/writing/>.

## **2) Purchased assignments**

Pre- and custom-written assignments (commonly essays) are readily available for purchase over the Internet or through essay-writing services. U of T considers the purchase of assignments to be one of the most serious breaches of academic integrity.

## **3) Re-submitting work for which credit was previously obtained**

It is an offence for a student to submit an assignment for which credit has already been obtained or is being obtained UNLESS s/he has permission from the instructors involved.

## **4) Altered work re-submitted for credit**

Students who, in an effort to obtain a higher grade, submit work for remarking which has been "improved" with the addition of material responding to the marker's comments or answers subsequently posted online or discussed in class.

## **5) Collaboration (providing/receiving unauthorized aid; plagiarism)**

Collaboration occurs when students work inappropriately closely with the result that the work they submit is unacceptably similar.

## **6) Tests and examinations (providing/receiving unauthorized aid)**

Examination rules:

<http://www.artsandscience.utoronto.ca/ofr/calendar/rules.htm#exams>

## **7) Altered or falsified documentation**

One of the more serious offences is the falsification of documentation required to support missed assignments/exams.