

GP9570A - Great Geophysicists

Fall 2013

Professors:

Dr. Kristy Tiampo

Office: BG0168

Phone: 83188

E-mail: ktiampo@uwo.ca

Office hours: TBA

Dr. Richard Secco

Office: BG0178

Phone: 84079

E-mail: secco@uwo.ca

Office hours: TBA

Lectures / Location : TBD

Course Goals: This course will provide an overview of Earth's dynamics and state through an introduction to and emphasis on the great scientists and their discoveries that have illuminated the concepts and processes fundamental to our knowledge of the physics of the Earth. Those discoveries throughout history will be presented in a seminar format. The goal is to provide our graduate students who have varied backgrounds with an introduction to a wide range of the fundamental physical concepts given in the list below. These concepts will provide the means to study our planet on varying spatial and temporal scales and with a broader approach in geophysics than is available through our current graduate curriculum.

The seminar format of this course is designed to attract graduate students from other fields (geology, environmental science, planetary science), as we anticipate that there will be a minimal math component. Graduate students from other disciplines such as physics, applied mathematics, statistics, and engineering are also welcome to enroll.

Prerequisites: Not specified. The goal is to make the course available to as many graduate geophysics, environmental, geology and planetary graduate students as possible, while making sure that they comprehend the basic principles that govern Earth's dynamics and state.

Required Text: None.

Method of Evaluation (subject to revision):

Participation: 15%

One seminar presentation, topics as described below (no written submission):
35%

In-class presentation (15 minutes) will concentrate on the recent advances and current state of a topic with a specific focus on how the foundational contribution of the earlier geophysicist(s) led to current discoveries (no written submission): 15%

Final paper – written submission only (10 pages maximum): 35%

Potential lecture topics covered by this course: This list is not all-inclusive and is subject to a selection of topics delivered in any one year.

1. Magnetism, the magnetic field and paleomagnetism.
2. Gravity.
3. Geodesy and Earth's shape (isostasy, GIA, remote sensing).
4. Geochronology, radioactivity and Earth's age.
5. Plate tectonics.
6. Seismology and Earth's structure.
 7. Earthquakes and hazard.
8. Thermal state and heat flow.
9. Earth formation.
10. Exploration geophysics.
11. Other subjects, TBD.

Late Policy: Assignments are due on the date specified on the assignment. 10% will be deducted for every day late. If you have exceptional circumstances, please contact the instructors prior to the due date.

Electronic Devices: Cell phones, music players and cameras will not be used during class time.

Scholastic Offences:

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/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.