



Introduction To Earth Science

ENV 1050 Course Syllabus – Spring 2018

Instructor: Leslie Kanat, Ph.D.

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Office hours: Scheduled office hours are from 8:30 to 9:30 a.m., Monday through Thursday; otherwise, stop in anytime or schedule an appointment. Office located in Bentley 332.

Lecture: Tuesday and Thursday, 1:00 to 2:15 p.m., in Bentley 206

Laboratory: J02: Wednesday, 1:00 to 3:00 p.m., in Bentley 101

Texts: Marshak, Stephen and Robert Rauber (2017). *Earth Science: The Earth, The Atmosphere, and Space*. W.W. Norton and Company, New York, 853 pages.

Kanat/Johnson State College, 2008. *Geos: The Prentice Hall Custom Laboratory*. Pearson Custom Publishing, New Jersey, 270 pages

Objectives

Introduction to Earth Science will expose you, the student, to the principles that underlie our understanding of how Earth evolves. You will learn about the wide variety of processes associated with geological activity and begin to develop an appreciation for geological time, plate tectonics, climate change, and many of Earth's cycles. This knowledge may help you make intelligent decisions about events that affect humankind.

Comments

It is expected that you will **read** appropriate sections of the textbook and **attend** all laboratory sessions; use the laboratory manual as a secondary textbook. I shall cover the material in the books during lectures and augment it with examples not cited in either text.

Please **read** the appropriate sections of both books **prior** to attending lecture, keep **good lecture notes**, **ask questions in class**, and **come see me** if you are having any difficulties. Please, do not wait to seek additional assistance in this course. Be prepared for lecture and lab – **read the material first**.

Distribution of grades

The final grade is determined by a weighted average using the following distribution:

20%	First Exam:	Thursday, 22 February 2018
20%	Second Exam:	Thursday, 5 April 2018
25%	Final Exam:	Monday, 17 May 2018 at 10:30 a.m.
35%	Laboratories:	Expect a variety of quizzes and exercises

Comments regarding assessment

- Two-minute quizzes will be given throughout the semester at the beginning of the class period.
- All exams and quizzes are cumulative – the pyramid exam style will be used in this class.
- If you miss an exam, you have one week to take a make-up; make-up exams are entirely essay.
- There are no make-ups offered for the final exam.
- There are no make-ups offered for missed laboratory periods.
- The laboratory sessions count for approximately $\frac{1}{3}$ of your final grade – please do not wait until the last day to complete the laboratory assignments.
- Everything counts – no grades are dropped.
- All material submitted for a grade must be presented in professional form – type everything; there will be a reduction of 20% for assignments that are not typed.
- Assignments are due at the start of the class period – otherwise they are late. For each calendar day (24-hour period) an assignment is late it will be down-graded by 10%. Please note that I recognize extraordinary circumstances may arise that would mitigate the late fee.
- I will be happy to meet with you at any time, except for the day before an assignment is due.
- Extra credit, day-long field trip on Saturday, 21 April 2018 – please make a note in your calendar.

Accommodations

Students with a documented disability who require accommodations should acquire an Academic Accommodations Form from Academic Support Services (Dewey 123, phone 635-1264).

Plagiarism

Students at Johnson State College are expected to be honest in all their academic work. You are responsible for knowing what specific acts constitute plagiarism. If you are unsure, then consult me, or read the Undergraduate Catalogue. Academic dishonesty in any form is prohibited and unacceptable.

(course schedule on following page)

ENV 1050 Course Schedule – Spring 2018

<u>Week</u>	<u>Lecture Topics</u>	Kanat/Johnson <u>Lab Manual</u>	Marshak & Rauber <u>Textbook</u>
1	Introduction to Earth science The nature of science Topographic maps	- - <u>1-28</u>	xxi, xxvi-xxvii, 3-7 8-9 388-389
2	Origin of the universe Origin of the solar system and Earth Topographic maps (continued)	<u>1-28</u>	25-34, 758-762, 837-843 34-38, 314-316, 776-811
3	Atoms, bonding, and symmetry Minerals and rocks	<u>39-66</u> ,	89-94 67-84 96-108
4	Unstable isotopes and absolute dating Geologic time and relative dating	<u>85-100</u>	303-307, 364-367 283-286, 307-309
5	Gravity and isostasy <i>First Exam: Thursday, 22 Feb 2018</i>	<u>additional</u> <i>(all of the above)</i>	26, 239-240
6	<i>Winter Break</i>	-	-
7	Magnetism and magnetic reversals Earthquakes and Earth's interior	<u>101-112</u>	38-39, 76-81 247-279
8	Plate tectonics	<u>113-124</u>	51-76, 82-85, 142-145
9	Igneous rocks Volcanoes and volcanic processes	<u>124-141</u>	115-139
10	Weathering, soils, and mass wasting Glacial processes and landforms	<u>143-161</u>	157-164, 392-411 478-504
11	Sedimentary rocks and structures Sedimentary environments and surface water Groundwater and Karst topography <i>Second Exam: Thursday, 5 Apr 2018</i>	<u>67-84</u> <u>163-177</u> <i>(all of the above)</i>	155-156, 165-179 390-392, 415-431 438-458
12	<i>Thanksgiving Break</i>	-	-
13	Oceans, tides, and eustasy <i>Field trip: Saturday, 21 Apr 2018</i>		511-527, 555-561
14	Metamorphic rocks and rock deformation Atmospheric structure and composition	<u>179-208</u>	191-206, 217-236, 302 587-592, 601-604
15	Atmospheric temperature and climate change Seasons Moisture, clouds, fog and precipitation	<u>209-218</u>	32, 593-594, 612-615, 697-703, 709-733 704-707 594-597
16	Air pressure, wind, and circulation Air masses and fronts El Niño and severe weather	<u>219-236</u>	642-655 631-642, 660-685
F	Cumulative final exam: Monday, 17 May 2018 at 10:30 a.m. (no make-ups)		

Weekly laboratory exercises are underlined.
Please use the index in the back of the textbook for additional reading.

We shall modify and improve upon the course outline as the term progresses.