GEO 167 Earth Evolution: Fall 2020 Syllabus

Thursday 6:00-7:00 pm, Online via Zoom
GEO 167 Earth Evolution. 3 hours, 3 credits. Stages in the history of the Earth system. Fundamental geologic concepts, origin of the Earth, the ancient seas and their changing shorelines, the continents and mountains and the evolution of life on Earth as seen in the fossil record. This course is required for the Major and the Certificate in Earth Science.

***BA and Certificate Students in Earth Science are required to take GEO 168 Earth Evolution Lab ***

Common Core: This is a Foundations in Life and Physical Sciences Core Course.

Instructor
Prof. Heather Sloan
Office Hours: W & Th 5-6 pm or by appointment
Office Location: Online via Zoom or Telephone
Telephone: 845-751-9115, Email: heather.sloan@lehman.cuny.edu (Email is the best way to reach me.)

Academic Objectives

Through a series of lectures, instructor-led discussions, small group peer discussions, in-class lab activities, and readings, students who successfully complete the course will achieve:

• Identify and apply the fundamental concepts and methods of a life or physical science:
  Students in this course will gain understanding and experience of our current understanding of the origin of Earth and the Solar System and the evidence upon which it is based; Earth’s early evolution; interconnected and evolutionary nature of paleogeography, climate and life; geologic time; major events in the chronology of Earth’s evolution through a series of lectures, instructor lead discussion/questioning, small peer group discussions, reading, virtual supporting material, and laboratory exercises.

• Apply the scientific method to explore natural phenomena, including hypothesis development, observation, experimentation, measurement, data analysis, and data presentation:
  Students will apply fundamental geologic principles (Uniformitarianism, Steno’s Principles) to problems presented in class activities and in lab exercises in which students will engage in observation, hypothesis formation, experiment design, data collection and organization, description and drawing, and interpretation.

• Use the tools of a scientific discipline to carry out collaborative laboratory investigations:
  Students will use classification keys, morphology and symmetry analysis, and fossilization type to identify fossil organisms, determine their life habits and habitats in order to ultimately determine ancient environments, geologic and tectonic settings.
  Students will employ the fundamental principles of geology to interpret and correlate stratigraphy in a variety of geologic and tectonic settings.

• Gather analyze and interpret data and present it in an effective written laboratory or field reports:
  Students will collect data from a variety of sources (samples, maps, measurements), organize and present their data, methods, interpretation and conclusion in written laboratory reports.
Identify and apply research ethics and unbiased assessment in gathering and reporting scientific data: Students will be presented with and will discuss the nature of objective observation and unbiased presentation of scientific data within the context of their lab reports.

In addition to the above, students who successfully complete the course will achieve:
- Familiarity with the nature of science, its limitations and how it relates to technology and society
- Development of critical thinking by the performance of laboratory exercises that require analysis of data in forms of maps, graphs, tables and mathematical equations; interpretation/analysis of diagrams

**Course Requirements and Grading**

**Course Requirements**
- Four 2-hour Exams – 60% of course grade
- Online chapter quizzes – 30 % of course grade
- Participation (lecture questions/in-class activities/homework) – 10% of course grade

**Reading**
Reading assignments should be done before the class on the date they are listed. Doing the reading ahead of time will prepare you to participate in group exercises (10% of course grade) in class which are part of your grade.

**Power Point Presentations**
The Power Point presentation from class will be available on the course Blackboard site. These are intended as study support to help you focus on the most important concepts presented in the reading. I update the presentations every semester and usually posted them on the day of class so that you can print them out to take notes during lecture.

**Quizzes – 30% of course grade**
You are required to complete an online quiz for each assigned chapter before the topic is discussed in class. You will find the quizzes on the Blackboard. You can take the quiz at any time during the week, but they are due before class and will become unavailable at class start time. If you want to use the quizzes to study - a very good idea - print out or save the quiz to a file before it disappears.

**Exams – 60% of course grade**
There will be four exams during the semester. They are not cumulative. See the Course Schedule for dates and times. Exams will be a mix of multiple choice, short answer, and essay questions.

**Grade Calculation**
Grades for individual exams will be calculated on a point-percentage basis with no letter grade assigned. Your course grades will be calculated on a curve derived from the cumulative scores on all tests and assignments for everyone in the class. Because we won’t have all these scores until after the final, I will not be able to tell you what grade you will get ahead of time. I will be happy to discuss your work with you and your standing in the class anytime.
**Required Texts**


*Earth System History, 3rd* Edition by Stanley (2009) ISBN 1-4292-0520-2 may also be used for this course (and it may be less expensive used).

A copy of the text is on reserve in the Library.

**Optional but recommended:** The *Earth System History Launch Pad Site.* ($22.99)

This site provides exercises, practice quizzes, and study guides that can improve your performance in the course. Follow these steps to get started. If you need additional guidance, consult the student *Quick Start* guide, especially the *system requirements* which list recommended browsers.

2. Bookmark the page to make it easy to return to.
3. Enroll in our course using one of the following options:
   1. If you have an access code, select “I have a student access code,” enter the code exactly as it appears on the card, and click Submit.
   2. If you don’t have an access code, either purchase a text package that includes one OR click “I want to purchase access” and follow the instructions.
   3. If you need to start working but can’t purchase right away, select “I want temporary access” and follow the instructions.

If you have problems registering, purchasing, or logging in, please contact Customer Support. You can reach a representative 24 hours a day, 7 days a week:

1. through the [online form](http://www.macmillanhighered.com/launchpadsolo/esh4e/3781448)
2. by chat
3. by phone: our tech support representatives are available Monday-Friday, 7:00 am to 3:00 am EST; Saturday and Sunday, 9:00 am to 3:00 am EST by phone at (800) 936-6899

**Bad Weather**

If bad weather prevents me from getting to campus even though classes have not been canceled, we will meet online on Blackboard. If the weather looks bad I will post an announcement on Blackboard by 9am only if I will not be coming in. No announcement means we will meet as usual. If I cannot get to campus or if classes are canceled, check the Blackboard for the required assignment for that day. We will not skip any scheduled material.

If the bad weather results in no internet service up here in the woods, I will try to notify you ahead of time and we will make arrangements to cover any scheduled material.

**In the Classroom**

Please help to maintain an atmosphere of acceptance, respect, and engagement in the classroom. You are expected to take responsibility for your learning – after all, no one else can learn for you. Your active engagement in lecture and lab activities is essential to your success in this course.

Please arrive on time and be ready to participate at the start of class. If you cannot avoid being a few minutes late, please enter quietly, causing as little disturbance as possible.

Please ask questions during class.

**Small Group Activities:** You will frequently be asked to participate in in-class small group activities. These and similar activities will determine part of your Class Participation grade (10%).
Course Policies

**ABSOLUTELY NO CELL PHONES** or other electronic gadgets are permitted in class – **that includes recharging**. Visible cell phones will result in a warning the first time and in the subtraction of 1 point per sighting from your participation grade after that. It is not acceptable to leave during class to receive or make calls. Repeated cell phone use will result in your being asked to leave the class for the day. The only possible exception to this digital exclusion is a laptop computer or tablet – but **ONLY for note taking**. If you are found reading email or surfing a topic not related to the course, you will be asked to put it away the first time and to leave if it happens again.

**Attendance Policy**

Attendance to class is required. You will be allowed 3 unexcused absences for legitimate reasons related to family obligations, work obligations, or illness without penalty. Good attendance (less than 3 absences) will be rewarded with an increase of your course grade total: no absences +3 points, 1 absence +2 points, 2 absences +1 point. More that 3 unexcused absences may result in a reduction of your course grade total of up to 3 points.

**Missed Exams**

There will be no make-ups for missed exams. All times and dates for exams are listed in the Course Schedule. It is your responsibility to avoid scheduling travel or appointments that might conflict with this schedule. If you cannot avoid missing an exam due to illness or emergency, some accommodation may be possible provided you notify me ahead of time and you provide proper written excuse such as a doctor’s note.

There will be no make-ups for in-class activities. If you miss an in-class activity, you are responsible for contacting a classmate and making sure you get the notes and understand the concepts covered.

**Accommodating All Abilities**

Lehman College is committed to providing access to all programs and curricula to all students. Students who may need classroom accommodations are encouraged to register with the Office of Student Disability Services. For more information, please contact the Office of Student Disability Services, Shuster Hall Room 238 and Telephone 718-960-8441.

**The Academic Center for Excellence (ACE) and the Science Learning Center (SLC)**

The Academic Center for Excellence (ACE) and the Science Learning Center (SLC) are two of the tutoring centers on campus. The ACE provides appointment-based and drop-in tutoring in the humanities, social sciences, and writing, as well as general writing and academic skills workshops. The SLC provides drop-in tutoring for natural science courses. To obtain more information about the ACE and the SLC, please visit their website at http://www.lehman.edu/issp, or please call the ACE at 718-960-8175, and the SLC at 718-960-7707.

**Academic Integrity**

It is your responsibility to read and understand the Academic Integrity Policy that can be found in full in the Undergraduate Bulletin. Violations of the Academic Integrity Policy will not be tolerated. Violations typically take the form of cheating or plagiarism. Plagiarism is the presentation of another person’s ideas, research, or writing as your own. At the very least confirmed violations of academic integrity will result in a grade of F or no credit for the assignment or exam in question and may result in more serious consequences.
# GEO 167 Earth Evolution: Fall 2020 Schedule

***Quizzes must be done before class***

All reading assignments are to be completed before class.

This schedule is subject to minor change.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading and Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 Aug</td>
<td>Introduction/The Earth System</td>
<td>Earth System History Ch. 1</td>
</tr>
<tr>
<td>3 Sept</td>
<td>Hadean &amp; Archean Eras</td>
<td>Earth System History Ch. 11</td>
</tr>
<tr>
<td>10 Sept</td>
<td>Proterozoic Era and Evolution and the Diversity of Life</td>
<td>Earth System History Ch. 12</td>
</tr>
<tr>
<td>18 Sept</td>
<td><strong>Exam 1</strong></td>
<td>Earth System History Ch. 7</td>
</tr>
<tr>
<td>24 Sept</td>
<td>Cambrian &amp; Ordovician Periods</td>
<td>Earth System History Ch. 13</td>
</tr>
<tr>
<td>1 Oct</td>
<td>Silurian &amp; Devonian Periods</td>
<td>Earth System History Ch. 14</td>
</tr>
<tr>
<td>8 Oct</td>
<td>Carboniferous &amp; Permian Periods</td>
<td>Earth System History Ch. 15</td>
</tr>
<tr>
<td>15 Oct</td>
<td><strong>Exam 2</strong></td>
<td></td>
</tr>
<tr>
<td>22 Oct</td>
<td>Triassic &amp; Jurassic Periods</td>
<td>Earth System History Ch. 16</td>
</tr>
<tr>
<td>29 Oct</td>
<td>Cretaceous Period</td>
<td>Earth System History Ch. 17</td>
</tr>
<tr>
<td>5 Nov</td>
<td><strong>Exam 3</strong></td>
<td></td>
</tr>
<tr>
<td>12 Nov</td>
<td>Paleogene Period</td>
<td>Earth System History Ch. 18</td>
</tr>
<tr>
<td>19 Nov</td>
<td>Neogene Period</td>
<td>Earth System History Ch. 19</td>
</tr>
<tr>
<td>26 Nov</td>
<td><strong>No Class - Holiday</strong></td>
<td></td>
</tr>
<tr>
<td>3 Dec</td>
<td>Holocene Epoch</td>
<td>Earth System History Ch. 20</td>
</tr>
<tr>
<td>10 Dec</td>
<td><strong>Exam 4</strong></td>
<td></td>
</tr>
</tbody>
</table>