**GEO 245 Earth Materials**  
**Fall 2020 Syllabus**

**Wednesday 6:00-7:00 pm, Online via Zoom**

5 hours (3, lecture; 2, lab), 4 credits. Presentation of the fundamentals of mineralogy and petrology (igneous, metamorphic, and sedimentary) with a focus on common rock-forming minerals, crystal structure, mineral and rock identification, soil, and water within the context of biogeochemical cycles. PREREQ: GEO 167, 166, or 101.

**Instructors**

Prof. Heather Sloan  
Office Hours: W & Th 5-6pm or by appointment  
Office Location: Online via Zoom or Telephone  
Telephone: 845-7515-9115, Email: heather.sloan@lehman.cuny.edu

**Academic Objectives**

Students successfully completing the course will demonstrate the following understanding or ability:

- Chemical composition and crystal structure of major rock-forming minerals
- Composition of predominant igneous, sedimentary and metamorphic rocks
- Interaction of the rock, hydrologic, and tectonic cycle.
- Nature, abundance and distribution of natural resources
- Identify major rock forming minerals in hand sample
- Identify predominant igneous, sedimentary and metamorphic rocks

**Required Texts, Equipment and Supplies**


**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 post them on the day of class so that you can print them out to take notes during lecture.

**Course Requirements and Grading**

- 4 Exams – 45%
- Labs – 45%
- Review Questions – 10%

The course will be graded on a curve. Individual assignments, quizzes, labs and exams will be graded on a percentage basis with no letter grade assigned.
In Class Participation (Does not apply to online only course.)
You will frequently be asked to participate in in-class activities. These activities will determine part of your Class Participation and Assignments grade (10%). This is why attendance is required.

Exams
There will be 4 non-cumulative exams of approximately 40 multiple-choice questions and an essay question or problem.

Labs
All labs should be completed and turned in by the end of the lab session unless otherwise specified by the instructor.

Chapter Review Questions and Quizzes
Reading assignments should be done and lecture video (Voice Thread or VT) segments viewed before class. VT segments will be followed by very short quizzes of 2-3 questions. Please complete them as you go.

Bad Weather Plan B (Does not apply to online only course.)
If bad weather prevents me from getting to campus even though classes have not been canceled, an assignment will be posted on Blackboard. If the weather looks bad I will post an announcement on Blackboard and send an email to your Lehman email address by noon 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.

Course Policies for In Person Meetings

Cell Phones
ABSOLUTELY NO CELL PHONES or other electronic communications gadgets are permitted in class – that includes recharging. Visible cell phones will result in you being marked absent. It is not acceptable to leave during class to receive or make calls. If you must leave to accept a call, please take your things and do not return; you will be marked absent. First-time cell phone use will result in a warning. Repeated cell phone use will result in you being asked to leave the class for the day. The only possible exception to this digital exclusion is a laptop computer – 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
Attendance to class is required. Please do not be late. If, in the instructor’s opinion, there is a legitimate reason that justifies absence or lateness, the instructor must be informed before class so that alternative arrangements may be made.

Missed Exams and Make-Ups
There will be no make-ups for missed exams, or quizzes. All times and dates for exams and quizzes 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 or quiz due to illness, for example, some accommodation may be possible provided you notify me ahead of time and you provide a written excuse such as a doctor’s note.

There will be no make-ups for in-class activities or laboratory exercises. If you miss an in-class activity or laboratory exercise, you are responsible for obtaining all the related materials and making sure you understand the concepts covered.
Accommodating Disabilities
Lehman College is committed to providing access to all programs and curricula to all students. Students with disabilities 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 in Shuster Hall, Room 238; 718-960-8441.

In the Classroom
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. When I ask the class a question, please be patient and wait to be called on – I usually wait a while to let people arrive at an answer before calling on someone.

An atmosphere of acceptance, respect, and engagement is absolutely required in the classroom.

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.

Eating is not permitted in the classroom. Drinks are permitted as long as no containers are left behind.

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
The high standard of academic integrity specified in the Lehman College Graduate Bulletin is upheld in this course. It is your responsibility to read and understand the Academic Integrity Policy that can be found in full in the Undergraduate and Graduate Bulletins. 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 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. Please refer to the statement of Academic Integrity Policy in the Undergraduate Bulletin.
# GEO 245 Earth Materials – Fall 2020 Class Schedule

All readings are to be completed before class. Please Note: This schedule is subject to minor change.

<table>
<thead>
<tr>
<th>Date</th>
<th>Week</th>
<th>Time</th>
<th>Topic</th>
<th>Reading</th>
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<tbody>
<tr>
<td>26 Aug</td>
<td>1</td>
<td></td>
<td>Introduction and Overview</td>
<td>Earth Materials Ch. 1</td>
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<tr>
<td>2 Sept</td>
<td>2</td>
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<td>Materials of the Solid Earth</td>
<td>Earth Materials Ch. 2 RQ: 1, 3, 8, 9, 10, 14, 18</td>
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<tr>
<td>9 Sept</td>
<td>3</td>
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<td>How are Minerals Identified</td>
<td>Earth Materials Ch. 3 RQ: 2, 3, 8, 9, 10, 11, 13</td>
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<td>23 Sept</td>
<td>4</td>
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<td>Fundamentals of Crystal Structure</td>
<td>Earth Materials Ch. 4 RQ: 1, 8, 9, 10, 12, 16, 17</td>
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<tr>
<td>30 Sept</td>
<td>5</td>
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<td>Exam 1</td>
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<td>7 Oct</td>
<td>6</td>
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<td>How Do Igneous Rocks Form?</td>
<td>Earth Materials Ch. 7 p. 157-162 &amp; Ch. 8 RQ: 1, 2, 3, 4, 5, 6, 7, 9, 20, 21</td>
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<td>14 Oct</td>
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<td>No Class - Monday Schedule</td>
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<td>21 Oct</td>
<td>8</td>
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<td>Igneous Rocks: Occurrence, Classification &amp; Plate Tectonic Setting</td>
<td>Earth Materials Ch. 9</td>
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<td>28 Oct</td>
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<td>Exam 2</td>
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<td>4 Nov</td>
<td>10</td>
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<td>Formation, Transport, and Lithification of Sediments</td>
<td>Earth Materials Ch. 10 p.289-293 &amp; Ch. 11</td>
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<tr>
<td>11 Nov</td>
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<td>Sedimentary Rock Classification, Occurrence &amp; Plate Tectonics</td>
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<td>18 Nov</td>
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<td>Exam 3</td>
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<td>25 Nov</td>
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<td>2 Dec</td>
<td>14</td>
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<td>Metamorphic Rocks</td>
<td>Earth Materials Ch. 13 p.367-368 &amp; Ch. 14</td>
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<td>9 Dec</td>
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<td>Earth Materials and Human Health</td>
<td>Earth Materials Ch. 17</td>
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<td>16 Dec</td>
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<td>Exam 4</td>
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