SPRING 2010
GEOL 102 – Plate Tectonics and Earth Evolution

Instructor: DR TEODOSIA MANECAN
E-mail: tmanecan@hotmail.com or tmanecan@hunter.cuny.edu
Class room: 1021 HN
Hours: Lecture: Monday and Thursday 11:10 AM- 12:25PM
       Lab: Wednesday 3:10 – 5:00 PM
Office: 1032 HN

Geology 102 is the second course of Geology offered to non Geology majors at Hunter College. It is: 4 credits 5 hours = 3 hours lecture and 2 hours lab/week
This course is designed to familiarize students with the main concepts used in deciphering and interpretation of the earth history giving them a better outline of the evolution of our planet from the spatial and temporal prospective:

- Geological time, geological principles and earth science history
- Earth materials as recorders of past geologic processes
- Depositional environments and sedimentary rock record, igneous and metamorphic geologic environments and their rock records
- Concept of evolution: evolution of solar system, planet earth, plate tectonics and life on earth
- Origin of the universe, Big Bang- Milky Way Galaxy-solar nebula-solar system-earth
- Life on earth and the fossil record
- Plate tectonics as a unifying theory, result of long time endeavor of earth scientists
- Precambrian history in rock and time units; early structural evolution of earth
- Origin of life and Precambrian life
- Paleozoic life; Paleozoic history and tectonics;
- Mesozoic life; Mesozoic history and tectonics
- Cenozoic life; Cenozoic history and tectonics

Course Prerequisites: Geology 101 or an equivalent of this.

Required Textbooks:
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Title</th>
<th>Chapter</th>
<th>Lab</th>
<th>OBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 TH</td>
<td>1/28</td>
<td>Time and Terrestrial Change</td>
<td>1</td>
<td>1 Dynamic Earth</td>
<td></td>
</tr>
<tr>
<td>2 MO</td>
<td>2/01</td>
<td>Floods, Fossils, and Heresies</td>
<td>2</td>
<td>2 Minerals and Rocks 02/03</td>
<td></td>
</tr>
<tr>
<td>3 TH</td>
<td>2/4</td>
<td>Evolution</td>
<td>3</td>
<td>7. Evolution</td>
<td></td>
</tr>
<tr>
<td>4 MO</td>
<td>2/8</td>
<td>Geologic Time Scale. Modern Concepts of Stratigraphy</td>
<td>4</td>
<td>3. Plate tectonics 02/10</td>
<td></td>
</tr>
<tr>
<td>5 TH</td>
<td>2/11</td>
<td>Numerical Dating of the Earth</td>
<td>5</td>
<td>4. Geologic Time</td>
<td></td>
</tr>
<tr>
<td>6 TH</td>
<td>2/18</td>
<td>REVIEW for test 1</td>
<td>1-5</td>
<td>4. Geologic Time 02/17</td>
<td></td>
</tr>
<tr>
<td>7 MO</td>
<td>2/22</td>
<td>TEST 1</td>
<td>1-5</td>
<td>Test 02/24</td>
<td></td>
</tr>
<tr>
<td>8 TH</td>
<td>2/25</td>
<td>Origin and Early Evolution of the Earth</td>
<td>6</td>
<td>5. Stratigraphy Formations</td>
<td></td>
</tr>
<tr>
<td>9 MO</td>
<td>03/01</td>
<td>Mountain Building and Drifting of continents</td>
<td>7</td>
<td>5. Stratigraphy Fossils 03/03</td>
<td></td>
</tr>
<tr>
<td>10 TH</td>
<td>3/4</td>
<td>Precambrian History and the origin of Continental Crust</td>
<td>8</td>
<td>6. Sedimentary rocks and sedimentary environment and structures 03/14</td>
<td></td>
</tr>
<tr>
<td>12 MO</td>
<td>3/8</td>
<td>Early Life and its Patterns</td>
<td>9</td>
<td>8* &amp; 9* Archean and Proterozoic</td>
<td></td>
</tr>
<tr>
<td>13 TH</td>
<td>3/11</td>
<td>Review for test 2</td>
<td>6-9+8*+9*</td>
<td>8*+9* 03/10 Review for MT</td>
<td></td>
</tr>
<tr>
<td>14 MO</td>
<td>3/15</td>
<td>Test 2</td>
<td>6-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 TH</td>
<td>3/18</td>
<td>Earliest Paleozoic History</td>
<td>10</td>
<td>10-13- 03/17</td>
<td></td>
</tr>
<tr>
<td>16 MO</td>
<td>3/22</td>
<td>Early Paleozoic</td>
<td>11</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>17 TH</td>
<td>3/25</td>
<td>Middle Paleozoic</td>
<td>12</td>
<td>10-13 03/24</td>
<td></td>
</tr>
<tr>
<td>18 TH</td>
<td>4/8</td>
<td>Late Paleozoic</td>
<td>13</td>
<td>10-13 04/07</td>
<td></td>
</tr>
</tbody>
</table>
Students are required:

1. To understand and explain at reasonable level all assigned diagrams and pictures in the chapters 1-16
2. To read all the Boxes from the text book in the week of the lecture and write 12+3=15 lines essay about the subject of one box per chapter; to be submitted by next class.
3. To do a trip to the American Museum of Natural History (AMNH) and visit the Halls of: Universe, Planet Earth, Biodiversity; New York State Environment; Humans Evolution; Meteorites; Origin of Vertebrates; Saurischian and Ornithischian Dinosaurs, Primitive and Advanced Mammals; and fill AMNH report questions form: to be submitted by 05/13/10

Also scheduled is a trip to the AMNH during the lab and lecture classes. We'll do a tour of the halls. You need extra time to study the displays to be able to answer the report questions.

AMERICAN MUSEUM OF NATURAL HISTORY: Central Park West at 79th street. New York City: Ph 212-769-5100 www.amnh.org. AMNH is a donation museum: pay what you feel comfortable; any amount even a dollar or less is acceptable.

Detailed information about assignments will be posted on blackboard
Grading
Lecture 50%
Lab 40%
Museum Reports 10%

Lecture grade:
20%  first exam
20%  second exam
20%  third exam
30%  final exam
10%  Box essays

See the course schedule for exam dates.

Attendance is mandatory. In lecture and lab

OFFICE ACCESS ABILITY:
In compliance with American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodation for all students with documented disabilities and or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/or Learning) consult Office of Access ability located in Room E 1124 to secure necessary academic accommodations. For further information and assistance please call: 212-772-4857/TTY 212-650-3230

HUNTER COLLEGE POLICY ON ACADEMIC INTEGRITY
Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.