This course is designed to expand the fundamental knowledge about the earth materials and earth processes acquired in the geology 101 to the complex geology of New York State. The course will cover updated information about the geologic time scale, the formations, plate tectonics evolution, and bedrock geology, including metamorphic, igneous and sedimentary rocks, fossils, and also the ancient environments of New York State. The field excursions in Catskill Mountains, Hudson Highlands, Manhattan Prong and Staten Island will provide students with a direct observation and interpretation of the structure and evolution of some major geologic formations during the last 600 million years in several important places of the vast area of the New York State.

The course consists of lecture, laboratory and field trips and is recommended for Earth Science Education Students and for Teachers of Earth Science MA Program.

Perquisite: GEOL101 or an equivalent course of introductory geology

(3 hours, 3 credits)
MONDAY 07/28/08  GEOLOGIC TIME SCALE AND NEW YORK STATE FORMATIONS; PRECAMBRIAN FORMATIONS AND GEOLOGIC STRUCTURES; CHAPTER 2&4

TUESDAY 07/29/08  PALEOZOIC FORMATIONS AND GEOLOGIC STRUCTURES CHAPTERS 5, 6, 7

WEDNESDAY 07/30/08  ORCHARD BEACH FIELD TRIP

THURSDAY 07/31/08  PALEOZOIC IN NYSSTATE AREA CHAPTER 8

MONDAY 08/04/08  REVIEW FOR THE MIDTERM: MINERALS, ROCKS, GEOLOGIC TIME SCALE OF NYC PALEOZOIC FORMATIONS AND GEOLOGIC STRUCTURES;

TUESDAY 08/05/08  MIDTERM 1

WEDNESDAY 08/06/08  FIELD TRIP INWOOD MARBLE AND PALISADES DIABASE

THURSDAY 08/07/08  MESOZOIC HISTORY; CHAPTER 9&10

MONDAY 08/11/08  CENOZOIC HISTORY CHAPTER 11&12

TUESDAY 08/12/08  STATEN ISLAND FIELD TRIP

WEDNESDAY 08/13/08  POUGHKIPSIE, BEACON AND COLD SPRING FIELD TRIP

THURSDAY 08/14/08  WORK ON THE POWER POINT PRESENTATIONS

MONDAY 08/18/08  WORK ON POWER POINT PRESENTATION

TUESDAY 08/19/08  POWER POINT PRESENTATION  TEAM WORK

WEDNESDAY 08/20/08;  GENERAL REVIEW FOR THE FINAL TESTS ON THE GEOLOGIC FORMATIONS AND STRUCTURE OUTCROPING IN NEW YORK STATE AREA

THURSDAY 08/21/08  FINAL TEST

*** Field trips dates will be subject of weather and transportation possibilities. We’ll use mainly public transportation in the most of the trips and at least one time we’ll rent a van. That day the field trip will start early morning and will end late afternoon.

**** Supplementary bibliography will include USGS web NYGS Web.
Student’s requirements:
1. Visit to AMNH (American Museum of Natural History) Hall of Planet Earth and Hall of NY State Environment and write a Museum report.*
2. Lab note book or folder and class note book or folder including charts with minerals, rocks and maps.
3. Field trip journal with pictures and/or sketches of the outcrops including their explanations, recommended to be done on power point**
4. Team work: Posters or power points: Paleozoic of NYS, Mesozoic of NYS, and Cenozoic of NYS

Grading: Attendance and participation effort 10%, midterm 20%, museum report 5%, lab note book or folder + field note book =10%, Field trip journal + team work 15%+10% = 25% Final test 30%

Picture: Map of the major geologic structures in NYS

Explanation

- *The AMNH museum will be done during home work time. Information will be posted on BB course documents

- ** Field trip information will be recorded on a small field note book and pictured with a photo camera or drawing sketched in the note book. Some small rock and mineral samples will be collected during the field trips.