NEW YORK UNDERGROUND (ENVST-UA-327)
PROFESSOR KATIE SCHNEIDER PAOLANTONIO
Fri 9:30 – 12:00 (BOBST LL140 AND VARIOUS FIELD SITES)
*NOTE: SEVERAL TRIPS WILL REQUIRE THE ENTIRE DAY!
SYLLABUS SPRING 2016

MY CONTACT INFORMATION:
   Email: ks146@nyu.edu
   Phone: 212-992-9669 (x29669 from a campus phone)
   Office hours: by appointment

REQUIRED TEXTS:
Additional readings will be posted on NYU Classes.

PREREQUISITES: ENVST UA 100 or Principles of Biology II

COURSE DESCRIPTION: Every day, millions of people walk the streets of New York City. But what is happening below those city streets? This is an environmental science course that will investigate the life and resources underneath NYC. The course is divided into three principle modules: energy, transportation, and water (potable and wastewater). For each module, we will discuss the mechanics, the history and the significance of the infrastructure from the perspective of environmental scientists. At the end of the course we relate the biotic components of New York’s fascinating dendritic underground environment. This seminar course will integrate classroom learning with practical experience and hands-on application through data collection and field trips. You will be required to pay for your own transport/admission to field trips throughout the semester.

GRADING:
There are no exams in this class. Attendance to the seminars, field trips, and lectures is mandatory. This course requires continuous student participation and engagement. Your grade will be based on the following:

   Module Papers (3) and Idea Sketch (1)     300 pts
   Paper Responses and Data Collection Plans (10)   150 pts
   Discussion Questions (4)        40 pts
   Participation           10 pts
   Total 500 pts

Unexcused, late papers will not be accepted. Points may be deducted for excused, late work. Letter grades will be determined as follows. If you earn the following points, your grade will be at least as indicated; instructor reserves the right to “curve” the lowest grade upwards as appropriate:
Incomplete, W = Withdrawal. This scale is subject to change based on overall course performance. If you receive an INC, you must resolve the INC before the end of the next semester or it will become an F. It is your responsibility to request an INC in writing before the end of the course.

**ATTENDANCE:** Attendance in this course is mandatory. If you miss a class, you must meet with me ASAP the following week (Monday or Tuesday) to discuss what you missed and go over what is needed for the next class. As each class relates to the next, no extension can be granted for any material due the next class and it is in your best interest to get the makeup material quickly. If you miss a class in the field, you will be required to complete an out of class activity, which will be designed to mirror the missed field experience (in content and duration). Your participation grade will be impacted by any lateness and/or unexcused absences.

**ASSIGNMENTS, READINGS AND PARTICIPATION:**

**Main Module Assignments**
After the energy, transportation and water modules, you will be required to submit a written assignment (3 – 4 pages). For the biology module, you will submit and present a short idea sketch (to be described in class). These assignments will allow you to synthesize the information presented within that module while integrating each component into a larger framework. Each paper will target a different audience, enhancing your skills in scientific communication while encouraging critical and independent thinking and analysis. You will also incorporate peer-reviewed, scientific literature in each assignment.

**Paper Responses and Data Plans**
There will be ten paper responses due throughout the semester. These responses are based on peer-reviewed papers, reports, and additional information. You will be responsible to read the material prior to class, hand in your printed answers to the questions, and participate in the discussion. You will also have to draft three data collection plans for each of the main modules. You will receive more information about these plans during class. All writing assignments will be discussed at the beginning of the lecture on the day that they are due. As such, late writing assignments will NOT be accepted. If you must miss class due to a personal emergency or medical issue, you can email your assignment prior to the start of class in order to get credit.

**Discussion Questions**
During weeks where we will have field trips and guest lectures, you will read background information, primarily in the form of books or reports. This will be roughly 60 – 100 pages of material per week. Prior to these classes, you will submit two discussion questions that you may have for the speaker/guide based on your readings or independent research.

**Participation**
Participation includes your attendance and participation in our weekly discussions. Attendance in this course is mandatory. You must come to each class prepared and plan to stay the entire time. During weeks that we will be meeting at an off-campus site, you are responsible for your own transportation (public transportation is available). You must arrive to the site on time, prepared (notebook/pencils, etc.) and dressed accordingly (more on this below). Field trips are mandatory and can not be made up. Missing classroom time is strongly discouraged as most classes can not be made-up independently. If you must miss classroom time, you are responsible to email me any work...
prior to the missed class and will have to meet with me that week to determine what you missed and how to catch up. See attendance policy above.

**FIELD TRIPS:**
There are several field trips scheduled for this course. For most, you are required to provide your own transportation (subway or train). We will discuss each field trip in more detail, but some will require specialized attire (CLOSED TOED SHOES, boots, etc.). You will also be required to sign waivers at several of the sites. Field trips are mandatory (and going to be fun!).

**POLICIES:**
1. All students must adhere to the academic integrity policies of NYU (more below).
2. Attendance to this course is mandatory. Come to lecture prepared and plan to stay the entire time. This means you must read the assigned readings prior to class. Expect to spend a substantial amount of time with assigned readings and assignments if you hope to do well and to get a lot out of this course.
3. Do not disrupt the course. Do not use your cell phone. Please keep eating during lecture to a minimum and clean up all trash when you leave. Respect me and your classmates. Disruptive conduct during lecture or while on field trips can result in disciplinary action as per NYU academic policy.

**STUDENTS WITH DISABILITIES:**
If you are a student with a physical, psychological, medical, or learning disability that may impact your course work, please contact The Moses Center for Students with Disabilities, 726 Broadway, 2nd Floor, 212-998-4980 (http://www.nyu.edu/life/safety-health-andwellness/students-with-disabilities.html). They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

**ACADEMIC INTEGRITY STATEMENT:**
CAS Academic Policies (From http://cas.nyu.edu/page/academicintegrity):

I. A COMMUNITY OF THE MIND
The College is a "community of the mind." Its students, faculty, and staff all share the goal of pursuing truth through free and open inquiry, and we support one another's endeavors in this regard. As in any community, membership comes with certain rights and responsibilities. Foremost among these is academic integrity. Cheating on an exam, falsifying data, or having someone else write a paper undermines others who are "doing it on their own"; it makes it difficult or impossible to assess fairly a student's interest, aptitude, and achievement; and it diminishes the cheater, depriving him/her of an education. Most importantly, academic dishonesty is a violation of the very principles upon which the academy is founded. Thus, when students enter the College, one of the first things that they are asked to do is to sign a community compact, recognizing these principles of academic integrity. For this reason also, violations of these principles are treated with the utmost seriousness.

II. SOME GUIDELINES
Academic honesty means that the work you submit - in whatever form - is original. Students are expected - often required - to build their work on that of other people, just as professional
researchers and writers do. Giving credit to someone whose work has helped you is expected; in fact, not to give such credit is a crime. Plagiarism is the severest form of academic fraud. Plagiarism is theft. Obviously, bringing answers into an examination or copying all or part of a paper straight from a book, the Internet, or a fellow student is a violation of this principle. But there are other forms of cheating or plagiarizing which are just as serious, for example:

- presenting an oral report drawn without attribution from other sources (oral or written);
- writing a paragraph which, despite being in different words, expresses someone else's idea without a reference to the source of the idea;
- submitting essentially the same paper in two different courses (unless both instructors have given their permission in advance);
- giving or receiving help on a take-home examination or quiz unless expressly permitted by the instructor (as in collaborative projects);
- presenting as your own a phrase, sentence, or passage from another writer's work without using quotation marks;
- presenting as your own facts, ideas, or written text gathered or downloaded from the Internet;
- submitting another student's work with your name on it;
- purchasing a paper or "research" from a term paper mill;
- "collaborating" between two or more students who then submit the same paper under their individual names.

Term paper mills (web sites and businesses set up to sell papers to students) often claim they are merely offering "information" or "research" to students and that this service is acceptable and allowed throughout the university. THIS IS ABSOLUTELY UNTRUE. If you buy and submit "research," drafts, summaries, abstracts, or final versions of a paper, you are committing plagiarism and are subject to stringent disciplinary action. Since plagiarism is a matter of fact and not intention, it is crucial that you acknowledge every source accurately and completely. If you quote anything from a source, use quotation marks and take down the page number of the quotation to use in your footnote.

When in doubt about whether your acknowledgment is proper and adequate, consult your instructor. Show the instructor your sources and a draft of the paper in which you are using them. The obligation to demonstrate that work is your own rests with you, the student. You are responsible for providing sources, copies of your work, or verification of the date work was completed. While all this looks like a lot to remember, all you need to do is to give credit where it is due, take credit only for your original ideas, and ask your instructor or adviser when in doubt.

Consult the APA, MLA, or Chicago style guides for accepted forms of documentation. You can access these resources, as well as additional information on proper citations on the NYU Libraries Citation Style Guide.

III. PROCEDURES AND SANCTIONS
The penalty for academic dishonesty is severe. The following are the procedures as approved by the Faculty of Arts and Science. See also the College Bulletin.
1. If a student cheats on an examination or in laboratory work or engages in plagiarism, appropriate disciplinary action should be taken. The Department can take the following actions:

   a) The faculty member, with the approval of the Director of Undergraduate Studies (Director), may reduce the student’s grade or give the student an F in the course.

   b) If after lowering the grade or assigning an F the department believes a more severe penalty (i.e., probation, suspension, expulsion) is warranted, it can refer the case to the Dean or his/her representative (Associate Dean for Students) for further action.

2. In all cases of either (a) or (b), the Director shall inform the Department Chair of any action in writing and send copies of this letter to the Dean and to the student. The letter shall include the nature of the offense, the penalty, and the right of the student to appeal such penalty. A copy of the letter shall be kept in a confidential chairman's file and not in the student's departmental file. The Dean's office copy shall also be kept in a confidential file. (The Professor and/or the Director is encouraged to meet with the student and discuss the nature of the offense and the action taken.)

3. For cases involving a first offense at New York University, the Dean shall send the student by registered mail a notice that a second offense will result in a one-semester suspension, or a more severe penalty. (The student is also called in to discuss the offense, and review the consequences of the disciplinary action.)

4. For cases involving a second offense, the Dean shall proceed as follows:
   a) Upon receiving a second Director's letter concerning a given student, the Dean shall convene a three-member ad hoc committee, with no member being from the department involved, to examine the evidence. This ad hoc committee shall consider if there are reasonable grounds to believe that cheating/plagiarism has occurred and if so, shall affirm the suspension penalty. It shall report its conclusion to the Dean within three business days.

   b) If the committee affirms the suspension, the Dean shall send the student by registered mail the suspension letter within two business days of receiving the report. The letter shall advise the student of his or her right to appeal. The student shall have two business days from the letter's delivery to request an appeal of the suspension as provided in Section 5 (below). The suspension shall ordinarily be stayed during the pendency of appeal.

   c) If the committee does not affirm the suspension, the report shall be kept on file for a one-year period.

5. The student in all cases has the right to appeal to the Dean. In the event of an appeal, the Dean shall elicit a written complaint from the faculty member and proceed as described above.
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<th>Date</th>
<th>Lecture Topic</th>
<th>Site</th>
<th>Readings (recommended)</th>
<th>Assignments DUE</th>
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<td>NYU</td>
<td>Goldemberg 2011 Parts 1 &amp; 2&lt;br&gt;Christiansen 2013 Chpts 15 &amp; 16</td>
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<td>Week 2</td>
<td><strong>Trip to NYU Cogen Plant 9:30&lt;br&gt;Book/Paper Discussion</strong></td>
<td>NYU</td>
<td>Goldemberg 2011 Parts 3 – 5&lt;br&gt;Chu &amp; Majumdar 2012</td>
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<td>Week 4</td>
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<td>Field</td>
<td><strong>IR Background Papers</strong></td>
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<td>Introduction to Transportation Module&lt;br&gt;Field Trip to Transit Museum 11:30 - 1</td>
<td>Field</td>
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<td>Energy Module Paper&lt;br&gt;Paper Response</td>
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<td><strong>Field data collection</strong></td>
<td>Field</td>
<td>Subway background Papers</td>
<td>Paper Response &amp;&lt;br&gt;Data Collection Plan</td>
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<td>Guest Lecture: NYCT&lt;br<em>Sustainability/Climate Initiatives at NYCT</em></td>
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<td><strong>SPRING BREAK</strong></td>
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<td>Week 10</td>
<td>Lecture: Introduction to Water Module and Book Discussion</td>
<td>NYU</td>
<td>Koeppel Pages 1-102</td>
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<td><strong>Field Trip to Old Croton Aqueduct, Croton Reservoir, Stream Sampling</strong></td>
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<td>Koeppel Pages 102 -184&lt;br&gt;Croton Management Plan</td>
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<td>Week 12</td>
<td><strong>Field Trip to Croton (raindate)&lt;br&gt;Book Discussion, Data Discussion</strong></td>
<td>Field</td>
<td>PlaNYC 2012&lt;br&gt;Koeppel Pages 184 – 292</td>
<td>Paper Response</td>
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<td>Week 13</td>
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<td>Discussion Questions</td>
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<td>Lecture: Subterranean Biology, Idea Sketches</td>
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<td>Grant et al. 2007, Culver 1970&lt;br&gt;Schick &amp; Lindley 2007&lt;br&gt;Christiansen 2013 Chpts 6, 9, &amp; 11</td>
<td>Biology Idea Sketch</td>
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