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2017

GEP 3750 Data Acquisition and Integration Methods for GIS Analysis

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GEP 3750-675. Data acquisition and integration in GIS

Professor: Dr. Yuri Gorokhovich

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Office Hours: available by appointment

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Class schedule and location: Thursdays, 6 – 9:30 p.m., 322 Gillet Hall

Weekly Lecture Topics:

| Date | Topic |
|--------|--|
| Aug 31 | Introduction to Geospatial Technologies |
| Sep 7 | Global Positioning Systems (GPS): History, Structure, Applications |
| 14 | GPS: Field Survey using Juno (Trimble) |
| 19 | GPS: Differential Correction, integration with GIS |
| 21 | No Classes |
| 28 | Data formats, groups and sources in geospatial technology; main data portals |
| Oct 5 | Remote sensing: aerial photography, oblique, ortho, measurements |
| 12 | Remote sensing: digital imagery and its capability (e.g. Landsat) |
| 19 | Remote Sensing: NASA programs, earth observing system (EOS) |
| 26 | MIDTERM |
| Nov 2 | Remote Sensing: LIDAR system and data processing with ArcGIS |
| 9 | GIS: vector and raster data structures. Data manipulation (ArcGIS) and integration; georeferencing |
| 16 | GIS: coordinate systems and projections. Georeferencing (ArcGIS) |
| 23 | No Classes, Thanksgiving |
| 30 | GIS: geoprocessing and modeling (ArcGIS) |
| Dec 7 | GIS: interpolation and terrain analysis Final project presentations (graduate students) |
| 14 | FINAL EXAM |



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Course learning objectives: Upon successful completion of this course, students will be able to:

- Understand basic structure of geospatial technology;
- Acquire knowledge of various basic methods used in geospatial technology;
- Gain practical skills with field methods and software;

Attendance Policy: Class begins at 6 p.m. and attendance will be taken at the beginning of each class. Absence is 0, presence is 1, lateness or absence from second and third hours is 0.5; these numbers will be used to calculate your attendance/tardiness score for the final grade calculation.

*****Announcements** are usually made during the first 5 minutes of class, so be on time. It is your responsibility to get the work you missed from the Professor or other classmates.

Use of Technology and Blackboard Information: We will be using a Blackboard site for much of the class activities. It can be accessed through the Lehman website at www.lehman.cuny.edu. We will go over how to access the site and its topography during the first week of class. If you have any questions about your Lehman email address or your password, or if you have any problems accessing the site please call the computer helpdesk at 718-960-1111

Grading:

Undergraduate Students:

Graduate Students:

| | | |
|-------------------|-------|-----|
| Labs: | 25% | 20% |
| Review Questions: | 20% | 20% |
| Midterm: | 20% | 15% |
| Final: | 20% | 15% |
| Term Project: | ----- | 20% |
| Attendance: | 15% | 10% |

Final grade is a weighted average of all above (i.e. includes average of labs, exam, etc.). In addition, I can add or subtract 5-10 pts to/from the final grade depending on your performance (class participation will add points, poor attendance, being late or not attentive will reduce points).

Lab assignment: Topical lab assignment will be given out to the class once every week. All assignments are required and are due the following week. The assignments will emphasize the theoretical and quantitative aspects of what is being discussed in class that week. **Late assignments are not acceptable.**

Review Questions: Every class students will be given two questions regarding the material covered in previous lecture/lab. 10 min to answer.

Exam: The format of exam will be a combination of problem solving (based on labs) and short answer questions or multiple choices.

Term Project (only for GEP675 students): project should illustrate application of the geospatial technology; it should be designed by student, not acquired from the internet.

Do it yourself approach: Use GPS, map certain features, collect data, create GE file, make map, analysis, explain and illustrate all steps. Explain how geospatial technology helps solving a specific problem, finding an answer to the question, sharing data, etc.

Missed Quiz/Exam/Lab: You will have no opportunity to makeup a missed exam/quiz/lab and will be given a grade of zero unless excused by the Professor (with a verified medical or emergency excuse only). If excused by the Professor, a makeup exam may be given (which may be essay or oral). Additional missed tests or assignments will be given a grade of zero unless excused by the Professor. **Any excused absence requires a neatly written or typed explanation of why you will miss or have missed, and must have supporting documentation** (Dr. excuse, tow bill, etc.). Each individual's circumstances vary, thus the Professor will evaluate each situation on its own merits. It is at the sole discretion of the Professor to excuse a student from a missed exam based on extenuating circumstances. It is your responsibility to submit the documentation to me during office hours ONLY and discuss the missed test, class or assignment with me when you return to class and before the end of the semester – no exceptions.

It is advised that the student call or e-mail the Professor immediately if an emergency arises and the student will miss or has missed an exam, or assignment deadline. The Professor will set up an appointment with the student to further discuss the situation.

Statement of Plagiarism: Plagiarism is the use of ideas, facts, opinions, illustrative material, data, direct or indirect wording of another scholar and/or writer—professional or student—without giving proper credit. Expulsion, suspension, or any lesser penalty may be imposed for plagiarism.

Standards of Conduct: Students are expected to abide by all the College guidelines.

1. **Classroom courtesy:** Students are expected to participate during class; however, discussion should be conducted in an orderly manner. A student should raise his/her hand to ask a question or comment on a topic. Side conversations between students will NOT be tolerated. Disruptive or disrespectful behavior at any time will not be tolerated.

2. **Beepers and cell phones:** **Both are required to be turned off during all classes- no exceptions.** If your phone or beeper goes off during class, you will be expected to leave the classroom for the remainder of the lecture.

3. **Academic Integrity:** All Students are to maintain ethical academic behavior at all times. The following is a partial list of conduct that would be unbecoming of a member of a college community:

1. Plagiarism or unauthorized collaboration on any assignment
2. Cheating on examinations, quizzes and assignments
3. Multiple submissions of work for credit more than once
4. Forgery, falsification, or sabotage
5. Theft, damage, or misuse of computer resources

Flexibility clause: Circumstances may arise during the course that may prevent the Professor from fulfilling each and every component of this syllabus; therefore, the syllabus schedule should be viewed as a guide, and is subject to change. Students will be notified of changes in advance.

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, Shuster Hall, Room 238, phone number, 718-960-8441.