

# Location Based Services

## CSCI 39580/GTECH 785.16

Fall 2014

Thursdays, 5:35–8:15 PM

**Location:** Hunter North 1090B-2  
**Hours/Credits:** 3/3  
**Instructor:** Carsten Kessler (<http://carsten.io>)  
[carsten.kessler@hunter.cuny.edu](mailto:carsten.kessler@hunter.cuny.edu)

**Office Hours:** Tuesdays, 3–5PM

**Office:** HN 1026

**Prerequisites:** One of the following:

GTECH 705 Spatial Data Analysis  
GTECH 731 Computer Programming for Geographic Applications  
CSCI 135 Software Design and Analysis I

Some computer programming background is required for this course. Students who have such experience, but have not taken any of the above courses can join the class with the instructor's permission.

### Course Overview

This course will examine the principles of Location Based Services (LBS) in a hands-on fashion. Students will learn how to design, implement, and test an LBS application in a group project. Therefore, basic programming skills in any language are a prerequisite for this course. The course will be highly interactive in two ways: Each student will present a topic to the class based on readings provided by the instructor, and each student will participate in the group work to develop a working LBS by the end of the semester. For this purpose, mobile devices (iPhones, Android phones, Google Glass) will be provided. Moreover, there will be a weekly reading assignment for which each student will write a short 100-word abstract and three questions for discussion in class.

### Required textbook

There is no textbook required for this class. The instructor will provide focused articles on the specific topics covered.

### Expected Outcomes

By the end of the course it is expected that students will understand how Location Based Services work and be able to develop a basic service on their own. They will learn about position technologies, using external data sources and services, web mapping, and aspects of mobile technology such as mobile operating systems.

## Criteria for Evaluation

Paper presentation	20%
Abstracts and questions	20%
Project participation	20%
Project outcome and presentation	20%
Project documentation	10%
Midterm	10%

The course will follow the CUNY grading policy that can be found in the online undergraduate/graduate catalog at <http://catalog.hunter.cuny.edu/>.

## Policy on Incomplete (IN) and Credit/No-Credit (CR/NC) grades

A final grade of IN (incomplete) will not be given except under the most extraordinary, and documented, circumstances CR/NC is not available to students enrolled in GTECH 732 or any other graduate-level course in the Hunter College School of Arts & Sciences.

## Course Policies

### *Communication*

All email messages about this course should include [LBS course] in the subject line and be signed with your full name.

### *Web-enhancement*

Everything pertaining to this course will be communicated through BlackBoard. You are required to check the BlackBoard course site on a daily basis. All changes to the syllabus will be announced on the course home page. All lecture and lab materials are accessible through BlackBoard, and this is also the place where you upload your assignments. Your exams and lab assignments will be graded based on what you have uploaded to BlackBoard and this is where you will find your grades and may access course statistics that help you to assess your standing at any given time.

### *Late Policy*

Abstracts and questions are due one hour before the beginning of the class, i.e., at 4.35pm. Late submissions will be downgraded 10% for each day late after the due date. If you get behind in this course, it will be difficult to catch up. If you get behind for any reason talk to the class instructor early. Unless for a serious documented emergency reason, requests for handing in late work cannot be honored.

### *Class Climate*

Hunter has made a conscientious effort to increase diversity in the student, staff and faculty member populations. To ensure that all class members feel welcomed and equally able to contribute to class discussions, we will all endeavor to be respectful in our language, our examples, and the manner in which we conduct our discussions and group work. If you have any concerns about the climate of the class, please contact me.

### *Hunter College Statement 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. Plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished to the full extent allowed according to Hunter College regulations. Be sure and reference all material you use. If you have any questions, please contact me!

### *Students with a Disability*

If you have any type of disability (emotional, medical, physical, learning, etc.), there are support systems, resources, and accommodation actions available to you. If you wish to access any of these supports, resources or accommodations, I encourage you to contact the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. Please Note: You are under no obligation to disclose your disability.

### *Syllabus Changes*

Except for changes that substantially affect implementation of the evaluation (grading) statement, the current syllabus is a guide for the course and is subject to change with advance notice. All changes will be announced on Blackboard.

### **Tentative Schedule** – subject to change!

<b>Week</b>	<b>Date</b>	<b>Topic</b>
1	Aug 28	Introduction: Course organization (assignment of presentations and project groups) and history of LBS
2	Sep 4	Positioning technologies: Outdoor and indoor
3	Sep 11	<i>Project proposal presentation</i>
4	Sep 18	Web standards basics: HTTP, HTML, CSS, JS
	Sep 25	No class – Rosh Hashanah
5	Oct 2	Web apps
6	Oct 9	Mobile Operating Systems
7	Oct 16	<i>Project review #1</i>
8	Oct 23	<b>Midterm</b>
9	Oct 30	Using existing data sources in LBS
10	Nov 6	Mobile human-computer interaction and user interfaces
11	Nov 13	Usability and user testing
12	Nov 20	<i>Project review #2</i>
	Nov 27	No class – Thanksgiving
13	Dec 4	Context-aware computing
14	Dec 11	Economic aspects of LBS and privacy implications
15	Dec 18	<b>Final project presentations</b>