

# **GTECH 10100 Digital Earth**

## **Summer II 2021**

### **Mon, Tues, Wed, Thurs**

### **6:00 PM to 7:53 PM**

**Instructor:** Mishka Vance

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Please include “GTECH 10100” in the subject line and sign your full name as it appears in CUNYfirst. It is preferred that you use your Hunter email.

**Office hours:** By appointment only

### **Course Description**

GTECH 101 Digital Earth is a unique undergraduate-level course designed to provide an introduction to geospatial technologies, the geographic principles that underlie such technology, and the role that the technology plays in society. Topics include the voyages of Henry Hudson, the mapping of disease, the practice of redlining in the United States, creating interactive web maps with Google My Maps, location-based services such as Uber, the use of smartphones in disaster relief, the virtual geographies in online gaming, and more. Through class activities and discussions, readings, hands-on lab assignments, and a final research project, students will develop an understanding of geospatial concepts as well as common workflows using various mapping applications such as Google Earth and QGIS. There is no required textbook, but the course relies heavily on the use of web-based resources including but not limited to Google Maps, OpenStreetMap, Census Bureau Geocoder, and the New York Public Library suite of digital mapping resources. This course is designed to be inclusive of all majors and programs of study, yet will provide an essential and practical foundation for those continuing on to advanced geography coursework and related fields.

### **Expected Learning Outcomes**

After completing this course, students will have the tools and techniques to:

1. Gather, interpret, and assess information from a variety of sources and points of view including historical information and descriptions, statistical tables, historical paper maps, and contemporary digital spatial databases.
2. Articulate and evaluate the empirical evidence supporting current scientific research in the geospatial technology field through the critical and analytical evaluation of scholarly research articles in terms of their research problem, data and methods, results, limitations, and further research directions.
3. Produce well-reasoned written or oral arguments using evidence to support conclusions in the form of small group discussions, an effective and informative oral presentation, and a written research report.
4. Identify and apply the fundamental concepts and methods of geospatial technologies and their intersection with geography and navigation, computer science, history of science, statistics, and technology-related studies including the underlying geographic concepts of today’s geospatial technologies, such as latitude and longitude, map projections, and coordinate systems, via practical lab assignments utilizing Google Earth, OpenStreetMap, and other web-based tools.
5. Demonstrate how tools of science and geographic analysis and technology can be used to analyze problems and develop solutions using web-based mapping applications and basic map making and design skills, including data integration and symbolization, to investigate real-world issues by creating a web map.
6. Articulate and evaluate the impact of geospatial technologies in matters of public concern, like privacy and safety, at the individual, community, and global scopes through discussions in class and on Blackboard.

7. Understand the scientific principles underlying matters of policy or public concern in which science plays a role and the responsibilities of knowledgeable and active users of geospatial technologies.

## **Blackboard Collaborate Ultra**

This course will be fully online utilizing Blackboard Collaborate Ultra available through the course's Blackboard site.

## **Software Used in Class**

All software used in class can be accessed from an internet browser, including ArcGIS Online, Google My Maps, Google Earth, and the NYPL Map Warper.

## **Course Readings**

There is no required text for this course. Any readings will be provided by the instructor via Blackboard. Students, however, are encouraged to explore topics of interest outside of class through scholarly articles, news sources, books, and other resources.

## **Student Evaluation**

### **Lab Assignments (60%)**

The course includes four lab assignments that provide students with hands-on experience using different geospatial tools to illustrate and extend the concepts introduced during lectures. Students will apply the fundamental concepts and methods of geographic technology to examine and solve problems using tools such as OpenStreetMap, Google MyMaps, Google Earth, and ArcGIS Online. The labs will constitute 60% of the grade required for this course. Lab assignments will be introduced and explained during class and will be due before the beginning of class on the due date.

### **Video Response Assignments (20%)**

Students will be assigned a short video covering various topics in the use and development of geospatial technologies to view, as well as a set of questions pertaining to the video's content. Students are required to post their responses to the questions on the Blackboard discussion board before the beginning of class on the due date. Students are encouraged to ask questions and respond thoughtfully to the work posted by their classmates. The responses are worth 20% of the final grade for this course.

### **Participation (20%)**

Students are expected to attend all virtual class sessions and participate in all class activities via Blackboard. Class activities may include technology demonstrations, discussions, and small group work. These activities will give students opportunities to work with one another as well as with the instructor to explore geospatial tools and demonstrate understanding and critical evaluation of coursework and reading assignments. Any exercises given during class are due at the end of the class session unless otherwise stated.

### **Late Submission and Exam Policies**

- 50% of the grade is deducted for late assignments submitted after the regular due date and time. No points can be earned for late or missing in-class activities.
- No points can be earned for assignments submitted later than one week after the regular due date and time.
- There will be no exams given for this course, but the instructor may administer unannounced quizzes during regular class time.

Based on your final score, you will be assigned a letter grade based on the numerical standards that can be found in the Hunter College Undergraduate Catalogue at <http://catalog.hunter.cuny.edu/>.

### **Incomplete and/or Credit/No Credit as a Final Grade**

A final grade of IN (incomplete) will not be given in this course (with the exception of death, serious illness, or other documented emergency circumstances). Incompletes must be requested in writing prior to the last class session (with the exception of an unforeseen emergency as outlined above) and will be given only if the student's grade is at "C" or above at the time the IN is filed, and with evidence of a satisfactory reason. At the time you request an IN, you must also complete a Contract to Resolve an Incomplete Grade (form available at the college) and get my signature. Otherwise, I will average your existing grades based on the course grading rubric and record the grade you have earned.

To qualify for a final grade of CR/NC (Credit/No Credit), you must have completed **all** course requirements (exams, quizzes, in-class and homework assignments, labs, and the final course project) and have satisfactory attendance and participation. If even one of these requirements are not met, you will be ineligible to receive CR/NC. You must request the CR/NC option prior to beginning the second exam on Wednesday, May 1<sup>st</sup>, and submit the CR/NC form no later than Wednesday, May 8<sup>th</sup>, the last regular class meeting of the semester. The policy and form is available online at <http://www.hunter.cuny.edu/advising/how-to/file-credit-no-credit-cr-nc>.

## **Course Policies**

### **Communication**

All email messages about this course should include "GTECH 101" in the subject line and be signed with your full name as it appears in CUNYfirst. It is preferred that you use your Hunter email.

### **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 to. 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.

### **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.

### **Academic Standards**

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!

### **ADA Policy:**

In compliance with the 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 accommodations 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 the Office of AccessABILITY to secure necessary academic accommodations.

### **Hunter College Policy on Sexual Misconduct**

In compliance with the CUNY Policy on Sexual Misconduct, Hunter College affirms the prohibition of any sexual

misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationship. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- A. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College’s Public Safety Office (212-772-4444).
- B. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College’s Title IX Campus Coordinator, Dean John Rose ([jtrose@hunter.cuny.edu](mailto:jtrose@hunter.cuny.edu) or 212-650-3262), or Colleen Barry ([colleen.barry@hunter.cuny.edu](mailto:colleen.barry@hunter.cuny.edu) or 212-772-4534) and seek complementary services through the Counseling and Wellness Services Office, Hunter East 1123.

The CUNY Policy on Sexual Misconduct can be found here:

<http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>

### Course Schedule

Week	Date	Topic	Assignments
1	July 13-15	Introduction to Geospatial Technologies	Lab 1: Introduction to ArcGIS Online Video: Geospatial Revolution Episode 1
2	July 19-22	Remote Sensing	Lab 2: Changing Landscapes, Sharing Maps, and Fun With Projections Video: Geospatial Revolution Episode 2
3	July 26-29	Global Positioning System	Lab 3: Mapping Natural Hazards Video: Geospatial Revolution Episode 3
4	Aug 2-5	Geographic Information Systems (Part 1)	Lab 4: Storytelling with Maps Video: Geospatial Revolution Episode 4
5	Aug 9-16	Geographic Information Systems (Part 2)	

### Syllabus Changes

Changes to the syllabus are possible. 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. All changes will/would be announced on BlackBoard, which you are expected to check daily.