GTECH 20300 - Introduction to Remote Sensing
Fall 2018, Hunter North 1090B
Wednesday 9:10 AM to 12:50 PM

Contact Information

Instructor:	Dr. Wenge Ni-Meister
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Office:	HN1029
Office Phone	212-772-5321
Office hours	Wednesday: 3pm-4pm or by appointment
Department Information	HN1006, Phone: 212-772-5265

Prerequisites: Permission of instructor

Textbook: **(Required)** ***Introduction to Remote Sensing, Fifth Edition 5th Edition,*** James B. Campbell and Randolph H. Wynne, The Guilford Press, ISBN-13: 978-1609181765 and ISBN-10: 160918176X. Online link: http://hunter.textbookx.com/institutional/index.php?action=browse#books/1737380/

Course Description: *4 hrs (2 lec, 2 lab), 3 cr.* This course provides an introduction to remote sensing science and technology. Topics include basic remote sensing principles, aerial photography, photogrammetry, image interpretation and satellite sensors and remote sensing applications. It emphasizes the use of remote sensing technology to study our changing environment. Weekly labs explore the use of various image display and analysis tools to visualize, interpret and analyze remote sensing images.

Course Objectives and Learning Outcomes:

By the end of the semester, students will

- Identify and define the basic terms and concepts of remote sensing science and technology.
- Recognize and explain how the remote sensing data are collected and used to study the environment and to monitor our changing planet.
- Master the methods used to interpret remote sensing image interpretation.
- Analyze remote sensing images using image processing tools.

Grading:

Final exam:	20%
Lab exercises:	55%
Quizzes:	20%
Participation	5%

Final Exam: You will work on a final project for your final exam. It is either a research project using ENVI or a documentary movie using online remote sensing resources to solve an environment issue. You will present your final project on Dec. 12. The final paper is due on Dec. 19. The final project focuses on testing the understanding of the overall knowledge of remote sensing science and technology.

Lab Exercises include computer-based analysis of remotely sensed images, supplemented by topics covered during lectures. Students will learn basic image interpretation and some web-based image processing skills through various lab exercises.

Quizzes: Instead of the in-class midterm exam, quizzes will be given at the beginning of each class meeting. Quizzes include short-answer questions based on the material covered from previous lectures, no make up quizzes.

Participation is graded based on attendance and contribution to in-class discussions.

Grading Policy

Grading will following Hunter College policy as outlined in the online undergraduate catalog that can be found at http://catalog.hunter.cuny.edu/.

I do not give incompletes (IN) except under the most extraordinary, and documented, circumstances. You must contact me within 48 hours of the final exam and request IN as a grade. At that time you will schedule a date to meet with me at the college and complete a Contract to Resolve Incomplete Grades. Otherwise, I will average the grades I have for you and record you the grade you have earned.

If you miss the final exam, you must (1) contact me within 48 hours of the missed exam, (2) present acceptable documentary evidence for your absence, and (3) be available for the make-up exam (Note: there will be one make-up exam day at the end of the semester held outside of class for those eligible). A make-up exam covers the same material as the regular exam but will not be the same exam given as scheduled. (i.e. **DON'T MISS AN EXAM**).

Resources

- All class materials will be posted on Bb.

Essential Policy Information:

- Late work: The last day to receive the required lab work is Dec. 12, 2018, unless I receive acceptable documentary evidence for your tardiness.
- Email Policy
  - Please use **GTECH 20300 Introduction to Remote Sensing** in the subject line when you email me. I do not answer email with insufficient subject lines
  - Please ***sign your full name to any message***. I do not answer unsigned email messages.
  - Student's email will be responded within 24 hours. Please note there will be a delay for messages sent over the weekend or during non-business hours.

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 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.

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, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772- 4857 or (212) 650-3230.

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, on 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 or 212-650-3262) of Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

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

Syllabus Change Policy

- Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.
- Any changes will be updated through Bb.

Tentative Daily Schedule

Week	Date	Lectures	Labs
Week 1	Aug. 29	Overview	Google Earth
	Sept. 5	**Classes follow Monday schedule**	
Week 2	Sept. 12	How Remote Sensing Works	Explore Online Digital Images
	Sept. 19	**No classes scheduled**	
Week 3	Sept. 26	Characteristics of Remote Sensing Data	Color Theory
Week 4	Oct. 3	Aerial Photography Interpretation	Image Interpretation
Week 5	Oct. 10	Photogrammetry	Photogrammetry Measurements

Week 6	Oct. 17	Remote Sensors	Image Analysis Online Tools
Week 7	Oct. 24	Earth Observation Satellites	NASA Eyes on the Earth
Week 8	Oct. 31	Digital Image Analysis	Image Analysis Tool – ENVI
Week 9	Nov. 7	Images from Space	ENVI Basic Functions
Week 10	Nov. 14	RS Application: Vegetation	Mapping Vegetation Cover
Week 11	Nov. 21	RS Application: Urban	Mapping Urban
Week 12	Nov. 28	RS Application: Fire	Fire Visualization
Week 13	Dec. 5	RS Application: Climate Change	Climate Change
Week 14	Dec. 12	Final Review	
Week 15	Dec. 19	Final Examination	