University of Georgia, College of Environment and Design

EDES 8030: Technology in EDP (Environment Design and Planning)

Spring 2020 (4 credit hours)

Time:	Monday, Wednesday, Friday 2:30 – 4:25 pm
Place:	Tanner 307
Professor:	Rosanna Rivero
Contact:	206 Tanner Building / (706) 706- 5426217 / rrivero@uga.edu
Office Hours:	By appointment

COURSE DESCRIPTION

This course is intended to introduce students to technologies in the area of environmental design and planning, with a particular emphasis on geospatial technologies. While the course will expose students to a variety of technologies, it will also provide the foundation on which further knowledge in more specialized classes can be built. Geopatial technology will the focus of this semester. It is defined as the system, the science and the tools to acquire, analyze, manage, store, or visualize various types of location-based data. These can include, among others: Geographic Information System (GIS), remote sensing (satellite imagery, aerial photography), and Global Positioning System (GPS).

The course involves a combination of instructor lectures, seminar activities (guided discussions by both instructor and students), hands-on labs, visits and guest lectures, and other resources. It may involve some field work if travel funding available. This syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

LEARNING OUTCOMES/OBJECTIVES

The main objective of the course is to introduce students to the most common and advanced technologies that could be applied to their research or projects. Upon completion of this course, students will be able to:

- Identify and describe major technological tools, concepts, trends and applications in the environmental design and planning field
- Understand and apply a variety of concepts of geospatial technology and science
- Understand and apply the basics of geospatial software for capturing, analyzing, and visualizing geospatial data and information
- Identify major sources of data and applications in the field

GENERAL SEMESTER OUTLINE

The semester will be divided into weekly thematic modules, that will be administer though a Google Drive website (information to be provided in class). These modules will alternate themes of general interest technology (transportation, climate, green infrastructure, smart cities, and others) with topics in the area of geospatial technologies. A weekly course schedule is shown at the end of the syllabus (subject to change).

READINGS

Required reading textbook:

- Shellito, Bradley A. 2017. Introduction to Geospatial Technologies, Fourth Edition. W.H. Freeman and Company: New York.

Additional books and other reading material will be on reserve at the Owens Library in the JSB building, and also provided through the course Google Drive. Journal articles and other reading material and sources of data may be provided by the instructor or compiled by students as part of their weekly

assignments. These may be also added to the reserve list during the semester. Selected chapter to read and discuss at the beginning of each week will be assigned by the instructor.

PERFORMANCE EVALUATION:

Assignments and other activities, including weekly labs and/or short papers to write on selected topics, will be announced and distributed in ELC as the semester progress. There will be a midterm exam or project, and a final project on a selected list of topics. Grades will be distributed as follows:

- Individual lab projects and Weekly Assignments 40%
- Mid-term project 20%
- Final project 30%
- Attendance & Participation 10%

Grades will be based on the following:

- The quality and completeness of your work,
- Examination of the student's understanding of technologies,
- Active participation and preparation for weekly assigned activities.

GRADING SCALE:

A (95 – 100%) Outstanding
A- (90 – 95%)
B+ (87 – 89%) Good
B (83 – 86%)
B- (80 – 82%)
C+ (77 - 79%) Satisfactory
C+ (74-76%)
C- (70-73 %)

CLASS STANDARDS:

Attendance: Attendance at every class meeting is mandatory. Active class participation is part of the student evaluation. Honor Code: *As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: https://ovpi.uga.edu/academic-honesty/academic-honesty-policy. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.*

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

Weekly Course Schedule [1]

Topic	Date
Week 1- Course Intro	Jan 8
Week 2 - History of GIS & Geospatial Technologies Topic of the Week: Applications for Environmental Design and Planning overview	Jan 13
Week 3 - Review of Spatial Basic Concepts Topic of the Week: Conservation Planning / Green Infrastructure/Landscape Analysis	Jan 20
Week 4 – Intro to 3D Models and Lidar Topic of the week: Technology for Historic Preservation/ Use of Historic Data and Maps	Jan 27
Week 5 - Field Data Collection Tools Topic of the week: Field Data Collection Tools	Feb 3
Week 6 - Intro to Remote Sensing Topic of the week: Web Mapping and other Web applications /Participatory GIS	Feb 10
Week 7 - Unmanned Aerial Systems Topic of the week: Technology for Conservation, Water, and Urban Ecology	Feb 17
Week 8 – Midterm Presentations	Feb 24
Week 9 – GIS for Spatial Analysis Additional Topic of the week: Technology for Conservation, Water, and Urban Ecology	March 2
Week 10 – No classes – Spring Break	March 9
Week 11 - Remote Sensing II + Topic of the week: Transportation Planning	March 16
Week 12: 3D City Modeling	March 23
Week 13: Geodesign, Scenario Planning, and participatory mapping + Additional 3D Modeling (City Engine Lab)	March 30
Week 14 Guest Speaker: Mike (Michael) Lane, Applications Engineer at Hexagon	April 6
Week 15 Final Thoughts and Case Studies	April 13
Week 16 – Final Project Work Week Final Thoughts and examples	April 20
Week 17 – Final Project Due with Presentations	April 27

[1] Weekly Schedule subject to change