Syllabus GEOG 5515/4515 - Fall 2020

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT.

Course and Instructor Information

Course Title: GEOG 4515/5515 Web GIS  
Credits: 3 credits  
Format: Online  
Prerequisites: Geog 2500, 2505 and consent of instructor  
Professor: Weidong Li

Email: weidong.li@uconn.edu (preferred method of contact via email)  
Telephone: 860-486-6977  
Other: 860-938-6583 (cell)  
Office Hours/Availability: online via WebEx or Zoom, by appointment

Course Materials

Required course materials should be obtained before the first day of class.

Required textbooks are available for purchase through the UConn Bookstore (or use the Purchase Textbooks tool in HuskyCT). Textbooks can be shipped (fees apply).

Required Materials: None

Optional Materials:


Additional course readings and media are available within HuskyCT, through either an Internet link or Library Resources

Course Description

Introduction to Internet GIS. The basics of system architecture, geospatial web services, mashups, dashboards, the functionality of geportals and web technologies, and web mapping interoperability, using universal data standards such as OGC (Open Geospatial Consortium) web services, and the current state of e-business and e-government web mapping interests.

In general, students will gain an understanding of the basic concepts of Internet GIS from this course. While focusing on providing instructions for customizing web-based mapping applications using ESRI’s ArcGIS Server and JavaScript, this course also introduces the knowledge of open source Internet GIS software and solutions. The course concludes with an overview of and the new research frontiers and future trends in Internet GIS.

Course Objectives

By the end of the semester, students should be able to:

1. Use basic HTML programming skills for web page development.  
2. Apply basic Javascript programming skills for web page designing.  
3. Design personal homepage using Web Design Software BlueGriffon.  
4. Publish web map services and feature services using ESRI ArcGIS Server.  
7. Build an online GIS system by customizing ArcGIS Server or Dashboards with JavaScript.
Module 1: Web Page Basics - HTML and HTML5 Introduction  
Weeks 1 and 2: Lab exercise 1 (due at the end of week 2)

Module 2: Web programming Basics - JavaScript introduction  
Weeks 3 and 4: Lab exercise 2 (due at the end of week 4)

Module 3: Web page design - Web Design Software BlueGriffon Introduction  
Weeks 5 and 6: Lab exercise 3 (due at the end of week 6)

Module 4: Geospatial Web Services and ArcGIS Server - ArcGIS Server Introduction  
Weeks 7 and 8: Lab exercise 4 (due at the end of week 8)

Module 5: Geoportal and Geospatial Mashups - Google Maps Mashup with ArcGIS Server  
Weeks 9 and 10: Lab exercise 5 (due at the end of week 10)

Module 6: Introduction to ArcGIS Dashboards  
Weeks 11 and 12: Lab exercise 6 (due at the end of week 14)

Module 7: Final project - Developing a web GIS application - only for graduate students  
Weeks 13 – 14: Project report and workable application (due at the end of week 14)

<table>
<thead>
<tr>
<th>Module Name</th>
<th>Date</th>
<th>Topics</th>
<th>Quizzes</th>
<th>Lab Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>Weeks 1 and 2 (Aug.31- Sept.13)</td>
<td>Web Page Basics</td>
<td>Quiz 1 Due quiz 1 at the end of week 2</td>
<td>Lab exercise 1 (HTML and HTML5 Intro) Due lab exercise 1 at the end of week 2</td>
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<tr>
<td>Module 2</td>
<td>Weeks 3 and 4 (Sept. 14- Sept. 27)</td>
<td>Web programming Basics</td>
<td>Quiz 2 Due quiz 2 at the end of week 4</td>
<td>Lab exercise 2 (JavaScript Intro) Due lab exercise 2 at the end of week 4</td>
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<td>Module 3</td>
<td>Weeks 5 and 6 (Sept. 28- Oct. 11)</td>
<td>Web page design</td>
<td>Quiz 3 Due quiz 3 at the end of week 6</td>
<td>Lab exercise 3 (Web Design Software BlueGriffon Intro) Due lab exercise 3 at the end of week 6</td>
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<tr>
<td>Module 4</td>
<td>Weeks 7 and 8 (Oct. 12- Oct. 25)</td>
<td>Geospatial Web Services and ArcGIS Server</td>
<td>Quiz 4 Due quiz 4 at the end of week 8</td>
<td>Lab exercise 4 (ArcGIS Server Intro) Due lab exercise 4 at the end of week 8</td>
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<tr>
<td>Module 5</td>
<td>Weeks 9 and 10 (Oct. 26- Nov. 8)</td>
<td>Geoportal and Geospatial Mashups</td>
<td>Quiz 5 Due quiz 5 at the end of week 10</td>
<td>Lab exercise 5 (Google Maps Mashup with ArcGIS Server) Due lab exercise 5 at the end of week 10</td>
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<tr>
<td>Module 6</td>
<td>Weeks 11 – 12 (Nov. 9- Nov. 22)</td>
<td>Introduction to ArcGIS Dashboards</td>
<td>Quiz 6 Due quiz 6 at the end of week 12</td>
<td>Lab exercise 6 (ArcGIS Dashboards Intro) Due lab exercise 6 at the end of week 14</td>
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<tr>
<td>Module 7</td>
<td>Weeks 13 – 14 (Nov. 30- Dec. 13)</td>
<td>Final project - only for graduate students. Undergraduate students continue working on Module 6</td>
<td>Project report due at the end of week 14</td>
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Course Requirements and Grading

Summary of Course Grading:

<table>
<thead>
<tr>
<th>Course Components</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>6%</td>
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Quizzes
The quiz format is open book multiple choice questions. The quizzes cover the lectures and assigned reading. A make-up quiz will be scheduled only in the event of personal illness or extraordinary circumstances. Anyone who will miss a quiz must notify the instructor in advance of the quiz date.

Lab Exercises
Six Lab exercises are given. All assignments are due at the specific time assigned. The scores for late submitted assignments will be deducted by 5% per day except in extraordinary circumstances. The six exercises will help to create the final course project.

Course Project - only for graduate students (who take GEOG5515), undergraduate students (who take Geog4515) do not need to do the course project
Graduate students will plan and create a specific Internet GIS application on a topic based on their own interests. The project will offer an opportunity to refine and apply skills learned. The instructor will provide the example data and application at the start of class. The six exercise assignments will help graduate students to develop the final project. Graduate students may consult the instructor about their project topics. The project will contain a written report.

The final grades for undergraduate students (who take Geog4515) are based on a linear, percentage-based system. That is, the final course score equals to the total points earned (for quizzes and lab exercises) divided by the total points available (for quizzes and lab exercises).

Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
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<th>GPA</th>
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<tbody>
<tr>
<td>93-100</td>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>90-92</td>
<td>A-</td>
<td>3.7</td>
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<td>B+</td>
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<td>77-79</td>
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<tr>
<td>73-76</td>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>70-72</td>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>67-69</td>
<td>D+</td>
<td>1.3</td>
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<tr>
<td>63-66</td>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>60-62</td>
<td>D-</td>
<td>0.7</td>
</tr>
<tr>
<td>&lt;60</td>
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Due Dates and Late Policy
All course due dates are identified in the course outline. Deadlines are based on Eastern Time; if you are in a different time zone, please adjust your submittal times accordingly. The instructor reserves the right to change
dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.

The scores for late submitted assignments will be deducted by 5% per day except in extraordinary circumstances.

Feedback and Grades

I will make every effort to provide feedback and grades as soon as possible through individual meetings, course websites, emails, and phone. To keep track of your performance in the course, refer to My Grades in HuskyCT.

Student Authentication and Verification

The University of Connecticut is required to verify the identity of students who participate in online courses and to establish that students who register in an online course are the same students who participate in and complete the course activities and assessments and receive academic credit. Verification and authentication of student identity in this course will include:

1. Secure access to the learning management system using your unique UConn NetID and password.
2. Video meeting with ID check.

Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

● The Student Code
  ○ Academic Integrity
  ○ Resources on Avoiding Cheating and Plagiarism
● Copyrighted Materials
● Netiquette and Communication
● Adding or Dropping a Course
● Academic Calendar
● Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
● Sexual Assault Reporting Policy

Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or http://csd.uconn.edu/.

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government.” (Retrieved March 24, 2013 from Blackboard’s website)

Software/Technical Requirements (with Accessibility and Privacy Information)

The software/technical requirements for this course include:

● ESRI ArcGIS and ArcGIS server
● HuskyCT/Blackboard (HuskyCT/ Blackboard Accessibility Statement, HuskyCT/ Blackboard Privacy Policy)
● Adobe Acrobat Reader (Adobe Reader Accessibility Statement, Adobe Reader Privacy Policy)
● Google Apps (Google Apps Accessibility, Google for Education Privacy Policy)
● Microsoft Office (free to UConn students through uconn.onthehub.com) (Microsoft Accessibility Statement, Microsoft Privacy Statement)
● Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended).

NOTE: This course has NOT been designed for use with mobile devices.
Help

Technical and Academic Help provides a guide to technical and academic assistance.

This course is completely facilitated online using the learning management platform, HuskyCT. If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the Help Center. You also have 24x7 Course Support including access to live chat, phone, and support documents.

Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Basic ArcGIS.
- Use electronic mail with attachments.
- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.

University students are expected to demonstrate competency in Computer Technology. Explore the Computer Technology Competencies page for more information.

Evaluation of the Course

Students will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are administered by the Office of Institutional Research and Effectiveness (OIRE).

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.