CSC 301-01, Advanced Web Development and Web Scraping
Spring 2020
Eastern Connecticut State University

Instructor: Dr. Garrett Dancik
dancikg@easternct.edu
(860) 465-4587
Science Building, Rm 257

Office Hours: MWF: 10-11:00
MF: 3-4:00, or by appointment

Course information:

Title:	Advanced Web Development and Web Scraping
Day/Time:	MWF 11:00 – 11:50 PM (SCI 139)
Section:	01
Credit:	3 hours

Course Materials:

References:

1. HTML/CSS/Javascript tutorials: https://www.w3schools.com/
2. Python tutorials: https://docs.python.org/3/tutorial/
3. R tutorials: https://swirlstats.com/students.html
4. Shiny tutorials: https://shiny.rstudio.com/tutorial/

Technology:

1. Course notes and class website: https://gdancik.github.io
2. *Python* (http://www.python.org), *Jupyter Notebooks* (https://jupyter.org/) *RStudio* (https://www.rstudio.com/), and *Selenium* (https://selenium.dev/) will be used for programming assignments. Installation instructions can be found on the Course Information section of the website.
3. Piazza (https://piazza.com) will be used for online discussion and several assignments. Note: a mobile app is available from the App store (iPhone/iPad) or Google Play (Android devices)

Course Description

Web pages are functional products that provide a service, but also contain rich sources of data that can be collected and analyzed. This course covers the design, development, analysis, and automated browsing of web pages. Specifically, this course teaches students how to build dynamic web pages using HTML, CSS, and JavaScript, and how to use selected web development frameworks. Writing web browser extensions is also discussed. Students will gain experience scraping and parsing web pages in order to answer data-driven questions and to present information in meaningful ways. Finally,

students will gain experience with web browser automation for web page testing and for automating web-based tasks.

Grading

Assignments	25%
Exam I	25%
Exam II	25%
Final Project	25%

Online discussion: We will use Piazza (https://piazza.com) as an online discussion and question and answer forum in this course. Shortly after the beginning of the semester, you will receive an e-mail with registration instructions sent to your Eastern e-mail address. Piazza allows for students to post and answer questions, anonymously if desired. The class benefits by seeing questions asked by other students (who often have the same questions as you) and by contributing answers. As the instructor, I will answer questions and can endorse correct student answers as well. For these reasons, all non-personal (e.g., not grade-related) questions should be posted to Piazza rather than e-mailed to me. Questions regarding homework assignments should be posted to Piazza. Questions regarding homework must be specific and may contain no more than *several* lines of code. Note that posts not meeting these criteria will be deleted and the poster penalized if warranted. Note that Piazza will be required for several assignments.

Exam Policy: Make-up exams will only be given if you have an official excuse for missing class. If you know ahead of time that you will miss an exam, please talk to me before the exam to make arrangements for taking it. Missing **two** or **more** exams without official excuses will result in your dismissal from the course with a grade of **F**.

Grading Scale

93-100: **A**	90-92: **A-**	
87-89: **B+**	83-86: **B**	80-82: **B-**
77-79: **C+**	73-76: **C**	70-72: **C-**
65-69: **D+**	60-64: **D**	59 and below: **F**

Academic Honesty

You are encouraged to discuss projects and exercises with one another unless specified otherwise. However, copying answers from another student (unless otherwise specified) is *cheating* and this will not be tolerated. A student found cheating will automatically receive a grade of "F" on the assignment and will be reported to the department head with further potential consequences. In addition, students are responsible for familiarizing themselves with the University's numerous policies and procedures contained in the University Catalog and Student Handbook. The Code of Conduct policies and the Policy on Academic Misconduct

are of special significance, since cheating, plagiarism, and personal misconduct are strictly prohibited and carry severe penalties. Students should read and understand Eastern's Academic Misconduct Policy, which can be found in the student handbook. *www.easternct.edu/academicmisconduct*
All violations will be handled under the procedures established in this policy.

Classroom civility
Cell phones are not appropriate in class and must be turned off or set to vibrate and stored off of the class desk. In general, follow the Golden Rule and treat others with respect and the way you want to be treated.

Accommodations for Students with Disabilities
Eastern Connecticut State University is committed to following the requirements of the Americans with Disabilities Act (ADA) of 1990, the ADA Amendment Act of 2008, and Section 504 of the Rehabilitation Act of 1973, as amended in 1998. If you are a student with a disability (or think you might have a disability) and require accommodations or assistance evacuating a building in the case of an emergency, please contact the Office of AccessAbility Services (OAS) at 860-465-0189 to discuss your request further. Please note that accommodations are not retroactive and must be communicated through a Letter of Accommodation, which is drafted by the OAS.

***Tentative course schedule**

Week	Week of	Topic
1	1/20/20	***Martin Luther King Holiday – No Class Monday***
		Introduction to Web Development
2	1/27/20	HTML / CSS
3	2/3/20	Javascript
4	2/10/20	Javascript Frameworks (jQuery / Angular)
		Lincoln's Birthday - No Class
5	2/17/20	***President's Day - No Class***
		Review / Exam I
6	2/24/20	Developing Web Browser Extensions
7	3/2/20	Python Programming Fundamentals
8	3/9/20	Accessing web data with Python
9	3/16/20	***Spring Break - No Class***
10	3/23/20	Web Browser Automation

11	3/30/20	**Review / Exam II**
12	4/6/20	JSON and comomon web APIs
		Day of Reflection - No Class
13	4/13/20	R programming Fundamentals
14	4/20/20	Developing dynamic web pages with R/shiny
15	4/27/20	Project Presentations
16	5/04/20	Project Presentations