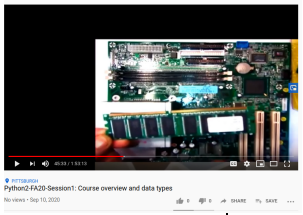
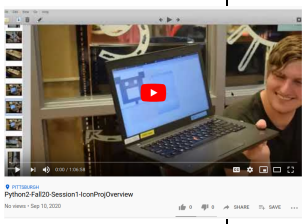
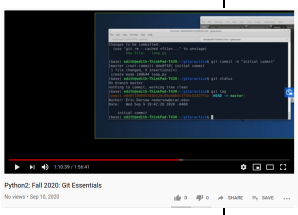
techred home > python 2 session schedule

revision history

Course concept progression

The following table maps course session dates, lesson topics, references, and content links for ATE-252, a cross-disicplinary exploration of issues in transportation analytics.

course	date	wk no.	session links	learning objectives	out-of-class work
DAT-129	Wed 2-SEP-2020	1	Intro to course and data structure exercise  Icon project Overview  git repos and project tracker Naming Triumvirate Guide Name registration form Module: Icon manipulation		1. Complete phase 1 specification in the icon moudle 2. Update or create a git respository to house your work in this classs. Setting up GIT tutorial 3. Once your git repo is setup, make an entry in the git repo tracker for python 2 git repos and project tracker
DAT-129	Wed 9-SEP-2020	2	git essentails  Module: Icon manipulation git branching	Implement code modularity suggestions in a peer's project	1. Continue your icon project to a fully-baked state for week 3. Use git on the command line to make commits during your work sessions. 2. Take a stab at one or all of the warm-up exercises posted at the top of the dictionaries module. 3. [Optional] Clone down a peer's git repository from last week. Create a new branch from their primary work branch on which you can make adjustments without interfering with their

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					workflow. 4. [Optional] Implement functionality to allow for display of an icon written to a text file. The program should ask the user for the name of the file (assuming it's in script's directory) AND the character used to represent no shading and the character used to represent shading.
DAT-129	Wed 16-SEP-2020	3	File i/o, JSON, and git 1. Review modularity of code concerning Icon processing 2. Git merging, conflict resolution, forking, pull requests 3. Reviewing essential text file processing: dictionary traversals 4. File processing examples Git Book File I/O, Dicts, and JSON JSON Specification In-Class chat parsing code Dictionaries, files, and exceptions Modularity tracking spreadsheet Command line interface (CLI) & git In-class notes and docs		1. Dowload the geojson file for the Pittsburg's capital projects on the WPRDC and make a good faith effort at the mini tasks 1,2,and 3 listed after the warm-up in the module page.
DAT-129	Wed 23-SEP-2020	4	Query spec building in JSON; advanced git Deitel textbook: Chapter	Clone, push to, pull from, and make pull requests to remote git repos Encode and decode JSON files in Python	1. Create a .json file which encodes a search criteria for capital projects in Pittsburgh. Write python code which

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			9, special focus on 9.5 Git Book: 2.5-remotes Git Book: 3.5-remote tracking		ingests that JSON file and uses it when iterating over the capital projects file, creating an output file featuring only projects that match your criteria. 2. Create a markdown file in your capital projects work folder that details how to use your JSON file to encode a search criteria. Include at least three different criteria in your search. 3. Push your changes to your own github repository
DAT-129	Wed 30-SEP-2020	5	Application programming interfaces 1 API Module	Encode a query in a URL and demonstrate its use by making a URL-encoded query against a remote API compouter Write python to make HTTP requests using the requests library	1. Study the supplies resources in the api module, familiarizing yourself with the API process by completing the in-class exercise with Donors Choose or NHTSA recalls 2. Find an API of your choosing using Api directory at Programmable Web related to a data domain of interest which returns results in JSON (or, if you're ambitious, XML). Secure an API key if needed, and make an initial call to your server to demonstrate a working skeleton in class next week. 3. When you have decided on an API, please make an entry in our tracker spreadsheet

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DAT-129	Wed 7-OCT-2020	6	Application programming interfaces 2: Share mini-projects API Module		Wrap-up API proj 1. Complete thorough documentation of your API project in readme.md files and push to git. Include screen shots of your output and links to any API resources you used along the way. Prepare peer tutorial for next week Peer Teaching
DAT-129	Wed 14-OCT-2020	7	Burst peer-teaching round robins Peer Teaching argparse module by Joel		None! Relax if you're all caught up.
DAT-129	Wed 21-OCT-2020	8	Flex day, mid-sem		
DAT-129	Wed 28-OCT-2020	9	< Web fundamentals & scraping Web scraping Scraping project tracker		1.
DAT-129	Wed 4-NOV-2020	10	Scraping mini project sharing Plan on having your scraping project pushed to git by the start of class so a peer can clone and test your project master markdown tutorial		ToDo for wrap-up of scraping 1. Get working code that scrapes an HTML page 2. Optional: Add one embellishment to your code: database interaction, pandas vis, link-following 3. Describe your project in a readme.md file and include a screen shot of both your output and the HTML your BeautifulSoup scrapes. See this sample markdown file with an image; just include the image file in the same

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					directory as your markdown file 4. Push your completed project to your github and insert link in our master tracker master markdown tutorial
DAT-129	Wed 11-NOV-2020	11	Slack connect Data analytics slack channel Mini-lessons For those who didn't share a mini-lesson, please plan to host a small group via zoom next week. In queue we have argparse (Joel) and recursion (Zach) and any others who didn't share on our scheduled day argparse module by Joel Introduction to pandas visualization numpy and pandas		
DAT-129	Wed 18-NOV-2020	12	Screen cast of session OS file system basics sample code and mini-project Secondary mop up of peer teaching • Eric M. (Comprehensions • Alex H. (Comprehensions) • Eric W. (Regexp) • Drew (Regexp) OS & file tree traversals Real and Digital File Trees sample code and		Choose one or both of these: 1. Implement a substantial attempt at solving a mini-project proposed by one your peers' mini projects 2. Endeavor to quantify and visualize an aspect of a file tree using os and shutils and perhaps mapplotlib

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			mini-project `os` module documentation `shutils` module documentation `python` Analytics: `[sqlite3, numpy, pandas, matplotlib`		
DAT-129	Wed 25--NOV-2020	X	Turkey day; no class all week		
DAT-129	Wed 2-DEC-2020	13	Recording of Zoom session: Visualizing energy throughout day **Visualization with `matplotlib`** `python` Analytics: `[sqlite3, numpy, pandas, matplotlib` **Final project design** Final project specifications Project tracking Google Sheet		1.
DAT-129	Wed 9-DEC-2020	14	Recordings of Zoom session: Database debugging **Database connectivity** Analytics with `python [sqlite3, numpy, pandas, matplotlib]` Databases- Postgres **Final project design consultations** Final project specifications		1.

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