
















course	date	wk no.	session links	learning objectives	out-of-class work
DAT-102	MON 9-DEC-19	13	<p>Visualization best practices</p> <p>Final project concept development</p>	1	1
DAT-102	MON 16-DEC-19	14	Final project worktime		
DAT-102	MON 16-DEC-19	14	FINAL EXAM PERIOD from 6:00 - 8:00 pm		




Data 201: Data Analytics 1

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DAT-201	TUE 03-SEP-19	1	<p>Session outline:</p> <ol style="list-style-type: none"> Welcome and introductions Project-based learning in action: Review of past term projects: project repository and student response sheet Syllabus review Pivot table glory: Past example Pivot table glory: Your turn! Grade comparison. <p>  Session guide:VLookup() and Pivot tables review  Shared drive of grade analyses </p>	<p>SPDSHT1: Implement VLOOKUP formulas in spreadsheets</p> <p>SPDSHT2: Fomulate a spreadsheet to properly get slurped up by a pivot table</p> <p>SPDSHT3: Create a pivot table to answer inquiry questions by configuring row and column selections</p>	

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DAT-201	TUE 10-SEP-19	2	<p>Map projections and Intro to QGIS</p> <p> Session guide: Maps 1</p>	<p>TR.201.DS.8.A - Maps - Projections</p> <p>TR.201.DS.8.B - Maps - Vector (points, lines, and polys) & raster (bands)</p> <p>TR.201.DS.8.C - Maps - QGIS fundamentals</p>	<p>Part 1: Pre-reading for week 2: Maps!</p> <p>Pre-reading on Responsible map making</p> <p>Part 2: Install QGIS</p> <p>QGIS install homepage by platform. This software package is large and complicated, but has been ported to Windows and OSX. Many students have no problems with the install, but in some cases, there are dependency issues that take quite a bit of time to resolve because QGIS is based on python and several other packages. Please follow the instructions carefully and have a working copy on your computer by 10-SEP-19 for in-class demo (but realistically, the 17th is when we'll start using it in class).</p> <p>Homework:</p> <p>Explore QGIS, make sure you understand what a layer is and how to add one. Come with questions next week. For anyone who doesn't want to aimlessly explore, here's a good (but fast!) video introduction to QGIS.</p>
DAT-201	TUE 17-SEP-19	3	<p>QGIS Demonstrations</p> <p> Session guide: Maps 2</p>	<p>TR.201.DS.8.D - Maps - Creating study areas</p> <p>TR.201.DS.8.E - Maps - Flat Joins</p> <p>TR.201.DS.8.F - Maps - Spatial Joins</p>	<p>Homework:</p> <p>Details available on the session guide; short version: make a map with PASDA data (mostly in-class), and start on your mid-semester mapping project (mostly out-of-class). Be ready to share what you're planning to do and any initial steps you've taken, next week.</p>
DAT-201	TUE 24-SEP-19	4	<p>(Tentative) Mapping with Nine Mile Run Watershed Association</p> <p> NMRWA (nonprofit org; homepage)</p> <p>Solve real-world problems with a local nonprofit!</p>		
DAT-201	TUE 01-OCT-19	5	<p>QGIS and Map Layouts</p> <p> Session guide: Maps 3</p>	<p>TR.201.DS.8.G - Maps - Layouts & printing</p> <p>TR.201.DS.8.H - Maps - Web compatibility</p>	

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DAT-201	TUE 08-OCT-19	6	<p>Worktime and presenting mapping mini-project</p> <p>6-7pm: Finlize mapping mini-project 7-8pm: Present project to class with feedback 8-9pm: Intro to Command Line</p> <p> session notes</p>	TR.201.DS.9.E - Clients - Feedback presentations	1
DAT-201	TUE 15-OCT-19	7	<p>Data cleaning and project lifecycle skills</p> <p> Command line interface (CLI) & git</p> <ul style="list-style-type: none"> Cleaning and batch processing with open refine Data flow/tool chain building 	<p>CLI.FUND.1 Differentiate between the unix BASH, Microsoft Corporation's command prompt, and the apple terminal in terms of origins, function, use, and proprietary status</p> <p>CLI.FUND.2 Navigate a direcdtory structure with cd, ls, tab completions, and the use of the files named . and ..</p> <p>CLI.FUND.3 Maniuplate files and directories safely with mkdir, mv, rm, and cp</p> <p>CLI.FUND.4 Parse file access permissions info as displayed by ls -al and safely issue commands with superuser powers via sudo</p>	1
DAT-201	TUE 22-OCT-19	8	<p>Clip board databases!</p> <p>How are spreadsheets and databases related? By the table, of course! Dig into the fundamentals of structure data system design, population, and querying.</p> <p> Obcat: Databases</p>	<p>TR.201.DB.1: Database use cases</p> <p>TR.201.DB.2: Types (File, relational, NOSQL)</p> <p>TR.201.DB.4.A - Tables - Data types</p> <p>TR.201.DB.4.B - Tables - Keys</p> <p>TR.201.DB.4.C - Tables - Foreign Keys</p> <p>TR.201.DB.5.A - Queries - SELECT</p>	1

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DAT-201	TUE 29-OCT-19	9	<p>Databases: Designs, features, & use cases</p> <p> Databases</p> <p> Clipboard database project guide</p>	<p>TR.201.DB.4.D - Tables - Manipulating</p> <p>TR.201.DB.6.A - Data - INSERT</p> <p>TR.201.DB.6.B - Data - UPDATE</p> <p>TR.201.DB.5.B - Queries - FROM (Joins)</p> <p>TR.201.DB.5.C - Queries - WHERE</p> <p>TR.201.DB.5.D - Queries - ORDER BY</p> <p>TR.201.DB.3: Leading vendors</p> <p>TR.201.DB.7 - Exporting</p> <p>TR.201.DB.8.A - Connecting - Spreadsheets</p> <p>TR.201.DB.8.B - Connecting - Python & Java</p>	1
DAT-201	TUE 05-NOV-19	10	<p>Databases: Designs, features, & use cases</p> <p> Databases</p> <p> Sample Postgres DB Creation Scripts</p>	<p>TR.201.DB.10.A - Design - Methodologies</p> <p>TR.201.DB.10.B - Design - Creating from data statements</p> <p>TR.201.DB.10.C - Design - Normalization</p> <p>TR.201.DB.10.D - Design - Many-to-many relationships</p> <p>TR.201.DB.10.E - Design - Spotting traps</p>	1
DAT-201	TUE 12-NOV-19	11	<p>Tentative:</p> <p>Digital meeting with Mark Egge of High Street Consulting</p> <p> Jupyter notebook, PostGIS, Census exercise from Mark Egge</p>	<p>TR.201.DB.9.A - Server - User configuration & permissions</p> <p>TR.201.DB.9.B - Server - Access, GUIs, and SSH</p> <p>TR.201.DB.9.D - Server - Indexes & query optimization</p> <p>TR.201.DB.5.E - Queries - Functions</p> <p>TR.201.DB.5.F - Queries - Fuzzy matching</p>	<p> DAT-201 Final Project Guide</p>

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DAT-201	TUE 19-NOV-19	12	<p> DAT-201 Final Project Guide</p> <p>Database server configuration</p> <p>Carrying out even small administration tasks correctly on a database requires a basic foundation in how the larger DB system works with the operating systems and its users.</p> <p>Project work time</p> <p> PostgreSQL Module</p> <ol style="list-style-type: none"> 1. Creating data system flow diagram & work proceslogs 2. Troubleshooting postgresQL /copy commands 3. Writing queries with aggregate functions and GROUP BY for analytics 	1	1
	TUE 26-NOV-19	-	THANKSGIVING BREAK!		
DAT-201	TUE 03-DEC-19	13	<p>Collaborative project worktime & overview</p> <p>Please bring questions, your data, computers, and enthusiasm for collaborative help.</p>	<p>TR.201.DS.9.A - Clients - Client interviews & problem scoping</p> <p>TR.201.DS.9.B - Clients - Specification negotiation</p> <p>TR.201.DS.9.C - Clients - Work process logs & billing</p>	1
DAT-201	TUE 10-DEC-19	14	<p>Final project sharing!</p> <p> DAT-201 Final Project Guide</p> <p>Bring fully-baked final project to class at our normal 6:00 pm. We'll share what you've discovered, submit grade proposals, and offer final program feedback.</p>	<p>TR.201.DS.9.D - Clients - Feedback conversations</p> <p>TR.201.DS.9.E - Clients - Feedback presentations</p> <p>TR.201.DS.9.F - Clients - Tool maintenance planning:</p> <p>TR.201.DS.9.G - Clients - Iterative tool development:</p>	