



Quatalog

“It’s like the catalog but based” —an RCOS coordinator

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RCOS

April 18, 2023

Motivation: The RPI Catalog is Horrible

- ▶ Most students use the RPI catalog to find the prerequisites for a course, and when the course is offered.
- ▶ Unfortunately, the official catalog is horrible at giving accurate information on almost anything.



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- ▶ Most students use the RPI catalog to find the prerequisites for a course, and when the course is offered.
- ▶ Unfortunately, the official catalog is horrible at giving accurate information on almost anything.
- ▶ Example: CHEM-4330 Drug Discovery is listed as “Fall term annually.”

CHEM 4330 - Drug Discovery

This course will examine how bioinformatics, functional genomics, and other modern biotechnologies are used to speed the discovery of new drugs, especially those small organic molecules to treat human diseases with large unmet therapeutic need. Special emphasis will be placed on molecular target identification and validation as well as high-throughput screening to identify a lead. Topics to be discussed will include transgenic mice, RNA interference, DNA and protein microarrays, homogenous time-resolved fluorescence bioassays, phage-display, combinatorial chemistry, and parallel synthesis. Students cannot receive credit for both this course and CHEM 6330.

Prerequisites/Corequisites: Prerequisite: CHEM 2260 or permission of instructor.

When Offered: Fall term annually.

- ▶ It has not been offered since 2013.
- ▶ The Quatalog aims to be the best solution to this problem.



The Old Quatalog



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MATH-4150: Graph Theory

Fundamental concepts and methods of graph theory and its applications to various areas of computing and the social and natural sciences. Topics include graphs as models, representation of graphs, trees, distances, matchings, connectivity, flows in networks, graph colorings, Hamiltonian cycles, traveling salesman problem, planarity. All concepts, methods, and applications are presented through a sequence of exercises and problems, many of which are done with the help of novel software systems for combinatorial computing.

Credit(s): 4

Prerequisite(s): (CSCI-1100 Computer Science I or CSCI-1200 Data Structures) and (CSCI-2200 Foundations of Computer Science or MATH-4090 Foundation of Analysis)

Cross-listed with:

- CSCI-4260 Graph Theory

Jump to course:

Terms offered:

	Spring	Summer		Fall
		(Session 1)	(Session 2)	
2023	Graph Theory (4c) • George M. Slos			
2022	Graph Theory (4c) • George M. Slos			
2021	Graph Theory (4c) • George Slos			
2020	Graph Theory (4c) • George Slos			
2019		Graph Theory (4c) • George Slos		
2018	Graph Theory (4c) • George Slos			
2017	Graph Theory (4c) • George Slos			
2016				
2015	Graph Theory (4c) • Mark K. Goldberg			
2014	Graph Theory (4c) • Mark K. Goldberg			
2013	Graph Theory (4c) • Mark K. Goldberg			
2012	Graph Theory (4c) • Mark K. Goldberg			
2011	Graph Theory (4c) • Mark K. Goldberg			
2010	Graph Theory (4c) • Mark K. Goldberg			
2009	Graph Theory (4c) • Mark K. Goldberg			
2008	Graph Theory (4c) • Mark K. Goldberg			
2007				

I was annoyed with inaccurate information in the catalog, so my idea was to show when a course has been offered in the past in a table.

This was the Quatalog at the beginning of the semester. I started working on it because of how annoyed I was with the catalog last semester. It was a simple HTML table with an extremely messy JS/JSON backend and no search feature.



The Quatalog Now

It has come a long way, including a total backend rewrite in C++. Now it is good as a full replacement for the catalog.



Graph Theory

MATH-4150

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4 credits

Cross-listed with:

CSCI-4260 Graph Theory

Prereqs:

one of:

CSCI-1100 Computer Science I

CSCI-1200 Data Structures

and

one of:

CSCI-2200 Foundations of Computer Science

MATH-4090 Foundation of Analysis

Past Term Data

- Offered
- Not Offered
- Offered as Cross-Listing Only
- No Term Data

- Simple View
- Detailed View

	Spring	Summer		Fall
		(Session 1)	(Session 2)	
2023	Offered	Not Offered	Not Offered	Not Offered
2022	Offered	Not Offered	Not Offered	Not Offered
2021	Offered	Not Offered	Not Offered	Not Offered
2020	Offered	Not Offered	Not Offered	Not Offered
2019	Not Offered	Offered	Not Offered	Not Offered
2018	Offered	Not Offered	Not Offered	Not Offered
2017	Offered	Not Offered	Not Offered	Not Offered
2016	Not Offered	Not Offered	Not Offered	Not Offered
2015	Offered	Not Offered	Not Offered	Not Offered
2014	Offered	Not Offered	Not Offered	Not Offered



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Graph Theory

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CSCI-4260 Graph Theory

Prereqs:

one of:

CSCI-1100 Computer Science I

CSCI-1200 Data Structures

and

one of:

CSCI-2200 Foundations of Computer Science

MATH-4090 Foundation of Analysis

Past Term Data

- Offered
- Not Offered
- Offered as Cross-Listing Only
- No Term Data

- Simple View
- Detailed View

	Spring	Summer (Session 1)	Summer (Session 2)	Fall
2023	Graph Theory (4c) • George M. Slosa Seats Taken: 26/70			
2022	Graph Theory (4c) • George M. Slosa Seats Taken: 18/20			
2021	Graph Theory (4c) • George M. Slosa • Shianne M. Hulbert Seats Taken: 29/30			
2020	Graph Theory (4c) • George M. Slosa Seats Taken: 16/30			
2019		Graph Theory (4c) • George M. Slosa Seats Taken: 30/90		



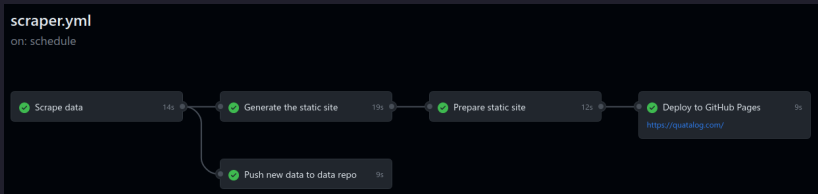
Progress Made During This Semester

- ▶ Before the rewrite, one of my friends, Sam Sussman-Randall, did the graphic design of the frontend, so that the Quatalog no longer looks like it's from 1995. Tragically, she was not part of RCOS this semester.
- ▶ Sam also made a search feature that I was too lazy to implement. I would later optimize it after the rewrite.
- ▶ During this time, I rewrote the entire backend in C++ to make the Quatalog a static site instead of one using JS-based rendering like the old Quatalog. This decreased the loading time significantly. The backend is composed of two programs, `CourseOfferingsScraper.cpp` and `GenerateHtml.cpp`, which we will discuss later.
- ▶ I also fixed a few bugs in QuACS, contributed a few unrelated features, and most importantly fixed and extended their scraper so that they can now get data from as far back as 1998 (previously this was limited to 2007). SIS's weird formatting did not make this easy.



How does it work?

Github actions!



site Public

A tool to show when an RPI course has been offered in the past, using quacs-data.

● CSS MIT 0 0 0 0 Updated 54 minutes ago

data Public

This repository stores the data for the Qatalog project.

MIT 0 1 0 0 Updated 54 minutes ago

qatalog Public

● C++ MIT 1 0 3 0 Updated last week



How does it work?

Github actions!

- ▶ QuACS's scrapers get data from the SIS, and create a bunch of JSON files, organized by semester. These can be found in the quacs-data repo.
- ▶ CourseOfferingsScraper reads all of QuACS's data (back to Summer 1998) and reorganizes the data into a format that is organized by course code instead of by semester, into more JSON files. These can be found in the Quatalog data repo.
- ▶ GenerateHtml then creates an HTML file for each course code, and dumps them into the site repo's static-generated branch.

Quatalog Updater Tue Apr 11 22:24:54 UTC 2023

⚠ Sorry, we had to truncate this directory to 1,000 files. 2,854 entries were omitted from the list.

- ▶ static-generated is pushed to Github Pages.



Any questions?