

GEOGRAPHY AND PLANNING

GPHY 348- Application Design and Customization in GIS



Contact Time	Two-hour lecture and two-hour practice per week		
Format	Lectures, labs, discussions, presentations, and a final project		
Class Assessment	Lab assignments	40%	
	Quizzes	30%	
	Final Project	25%	
	Class participation, presentation and discussion	5%	

COURSE OVERVIEW

This course introduces students to the basic skills and concepts of custom GIS geoprocessing workflows and development of their customization through model builder and Python to match workflow needs and individual preferences. Students will use ArcGIS Pro as an example in this course and learn to customize the interface, run geoprocessing operations, add new functionality using Python scripts, and gain a basic understanding of open-source GIS and online GIS.

COURSE TOPICS

There are two parts covered in this course. The first part is related to geoprocessing tool and model builder. It will cover the interface design, geoprocessing tools, processing flow in ArcGIS and how to use them in the modeling builder. The second part will focus on Python scripts. The students will learn the basics of Python scripts, scripting workflow, and the distinction between static and dynamic scripts, with hands-on practices on how to build Python scripts in and outside of ArcGIS Pro.

Please note that this is an advanced GIS course. Students are expected to have taken at least one GIS course and are familiar with geoprocessing tools in ArcGIS Pro. Students are also expected to have basic knowledge of programming.

COURSE READINGS

No textbook required. Suggested readings will be posted on onQ or provided through Queen's eReserves.