

Course Syllabus: *Demographics in Web GIS*

Winter Quarter, 2019

MPA Program at The Evergreen State College

(Pre-Class Syllabus Version, November 1, 2018)

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Intensive Weekend Schedule:

- Friday 5-9 pm
- Saturday 9 am – 5 pm
- Sunday 9 am – 5 pm

Location: CAL East (LAB II Building Ground Floor)

Credits: 2

Textbook: There is no book for this class. Exercise documents will be provided through Canvas.

Eligibility and Prerequisites

This class is open to MPA graduate students. There are no prerequisites for this course. Working familiarity with the use of Excel spreadsheets is useful for some modules of this course.

Program Description

The purpose of this class is to teach students practical skills for management and exploitation of demographic data for the production of insightful and informative maps. The course is structured around intensive hands-on exercises that teach map-making skills and tools, while exploiting commonly used types of spatial and demographic data with well-known methods of spatial analysis and map creation.

Students may be familiar with the technology of Geographic Information Systems (GIS). In this class Students will use the Esri ArcGIS platform to access vast compilations of spatial data including demographic and business content. Esri software is used for mapping by professionals and decision makers in almost every agency of state, local, and federal governments, in almost every nation, and by thousands of companies and NGO's worldwide. ArcGIS Online is a system of software-as-a-service (SaaS) which allows users to create maps through a web browser. No software installation is required, since the capabilities for map creation, data access spatial analysis, and publication are supported through web interfaces.

Final Project Submission

Following the conclusion of the intensive weekend of instruction, students will be required to complete a modest independent mapping project around a topic of their own interest. Projects will be submitted

as digital exhibits through ArcGIS Online within two weeks of the conclusion of the intensive weekend class meetings.

Available Computing Resources and GIS Software Licensing

Evergreen maintains an excellent computer applications lab (“CAL”) with large double-monitors, Windows computers, the required Esri (and other) software, and ample network file storage space for each student.

Students will be granted a software license to use the latest *ArcGIS Online* software, produced by Esri, Inc (<https://www.esri.com/en-us/home>). Since ArcGIS Online is a Software-as-a-Service platform, most capabilities are available through any computer with internet access of sufficient bandwidth, and a network browser client such as Firefox or Chrome. Excel mapping licenses are available for download by any students interested in replication of CAL computer functionality on their own (Windows) computers.

Canvas for Content Management

Class content is managed through Evergreen’s implementation of the Canvas online system, for distributing class modules and required data and reading files, uploading assignment results, taking quizzes, participating in discussion boards, and performing evaluations.

Discussion and Questions and Office Hours

Students are encouraged to work collaboratively. Please ask questions through the Canvas Discussion threads. Faculty will monitor the Discussion threads and provide answers and guidance. Experience shows that if one student has a question or problem, so do other students.

Office hours will be offered after the intensive weekend class is completed. Instructor will provide technical guidance for students who need support during their final project creation. The precise times and locations for office hours will be determined based on an assessment of the needs of participating students.

Awarding of Credit

Class credit will be awarded based on attendance, punctuality, in-class participation, and completion of the assigned exercises and presentation of the final term project. Students are required to write a self-evaluation and a faculty evaluation upon completion of the course and submission of the final project. Partial credit will not be awarded.

Course Modules – Intensive Weekend Classes Jan 25-27, 2019)

Module 1 (Friday 1/25 – Evening Session 5 pm to 9 pm)

Basics of Web Mapping

Presentation: ArcGIS Mapping Essentials

Practicum: Login to ArcGIS Online and Create First Map

Layers, Symbology, Filters, Extents, Labels, Bookmarks, and other Properties of a WebMap

Stretch Exercise: Charts and Graphs in the Pop-Up

Module 2 (Saturday 1/26 – Morning Session 8:30 am to Noon)

Making Maps Inside Excel Spreadsheets

Lecture/Practicum: Intro to Coordinate Systems

Excel Spreadsheets: Tips and Tricks for Mapping Tabular Data

Creating and Sharing Maps Through Esri *Maps for Office*

Stretch Exercise: Geocoding - Locations from Address Lists

Module 3 (Saturday 1/26 – Afternoon Session 1 pm to 5:30 pm)

Accessing Demographic Data and Other Big-Data Compilations

Presentation/Demonstration: Data Enrichment of the Web Map

Creating Web Apps from Web Maps

Sharing Maps and Apps; Security Considerations

Stretch Exercise: A Taste of Advanced Web Apps

Module 4 (Sunday 1/27 – Morning Session 8:30 am to Noon)

Community Analysis Techniques, Filters, and Data Relationships

Presentation/Demonstration: Spatial Analysis, Infographics, and Excel Reports

Hands-On Exercises: Creation of Demographic Maps and Outputs

Stretch Exercise: Create Customized Infographics Based on Demographic Variables

Module 5 (Sunday 1/27 – Afternoon Session 1 pm to 5:30 pm)

Scoping for Student Projects

Working with Student Teams to Define Project Themes and Data Resources

Project Submission (By Sunday 10 Feb 6:00 pm)

Students are required to submit their final project in Canvas.

Evaluations (Week of 11 Feb, To Be Scheduled)

Students must write Self-Eval and Faculty-Evaluation documents. Meetings will be scheduled with the instructor, of ~20 minutes duration, at Campus or at locations in downtown Olympia, or by telephone, or by Skype, according to individual student preferences and availability.