

Seminar: Open Source Software for Geographers :: GEO 5934 :: Fall 2007
Thursday 3:30pm - 6pm, Bellamy 35

CONTACT

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[Blackboard](#)

HARDWARE

Laptop computer

COURSE DESCRIPTION

Open source and free software are now ubiquitous. Using open source software can facilitate independent advancement of skills needed in research. This is particularly true for writing and illustration, but it is also true for statistics and GIS. In my opinion, the open-source paradigm provides a superior university-level learning experience.

OBJECTIVES

The course is designed to introduce you to some open source software as a way to emphasize the importance of understanding software and to challenge you to develop an appreciation for implementing code-based algorithms.

GRADING & EVALUATION

Grades are determined by a term project that demonstrates to the class an open source or free software of your choice.

GRADING STANDARDS

- A Outstanding: few, in any, errors/omissions
- B Good: only minor errors/omissions
- C Satisfactory: minor omissions, at least one major error/omission

ACADEMIC HONOR CODE

AMERICANS WITH DISABILITIES ACT

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; (2) bring a letter indicating the need for accommodation and what type. This should be done during the first week of classes.

SYLLABUS CHANGE POLICY

This syllabus is a guide for the course and is subject to change with advanced notice.

TOPICS & SCHEDULE

WEEK 1 Introduction: What is open source software?

Syllabus

<http://www.opensource.org/> Open Source Initiative

<http://www.fsf.org/> Free Software Foundation

Wikipedia: Mozilla Firefox

Wikipedia: open-source software

Copyleft: <http://www.gnu.org/copyleft/copyleft.html>

Macs vs PCs

Readings

Wheeler (2005) Why Open Source Software/Free Software (OSS/FS)? Look at the Numbers!

http://www.dwheeler.com/oss_fs_why.html

Lakhani and Wolf (2005) Why Hackers Do What They Do: Understanding Motivation and Effort in Free/Open Source Software Projects

WEEK 2 Beyond Software: Imitating Open Source's Success in The Real World

Guest instructor: Ian Elsner

WEEKS 3 & 4 Software for Writing

Open Office/LaTeX

Wikipedia: OpenOffice.org, LaTeX

Demonstrations: LaTeX

Readings

Byfield (2005) OpenOffice.org Writer vs Microsoft Word

Cottrell (1999) Word Processors: Stupid & Inefficient

Taraborelli (2006) The Beauty of LaTeX <http://nitens.org/taraborelli/latex>

WEEKS 4 & 5 Software for Image Manipulation

Wikipedia: GIMP

<http://www.gimp.org/tutorials>

Demonstrations: GIMP

GIMP vs Photoshop: Blogs

GimpShop

Inkscape

Readings

Lessig (2004) Free Culture: How big media uses technology and the law to lock down culture and control creativity

WEEK 6 No Class (travel)

WEEKS 7, 8 & 9: Software for Statistics and Data Modeling

Wikipedia: R programming language

R Starter Kit: <http://www.ats.ucla.edu/STAT/r/sk/>

Maindonald, J.H., 2004: [Using R for Data Analysis and Graphics: Introduction, Code and Commentary.](#)
Graphics

[R Reference Card](#)

Rweb <http://bayes.math.montana.edu/Rweb/Rweb.general.html>

Demonstrations: Tree regression, network analysis, etc

WEEKS 10, 11 & 12: Software for Spatial Statistics

Wikipedia: Free GIS Software, GeoDa

<https://www.geoda.uiuc.edu/>

Demonstrations

Readings

Anselin et al. (2004) GeoDa: An Introduction to Spatial Data Analysis

Anselin (2005) Exploring Spatial Data with GeoDa: A Workbook

WEEK 13: No Class (Thanksgiving)

WEEK 14 & 15: Software for GIS

Wikipedia: Quantum GIS

<http://www.qgis.org/>

Demonstrations

WEEK 15 Student presentations