# Outline for Programming Prep for Econ Students

(modelled on Math Prep, but in the week prior to the 2nd year)

5 half- or ¾ days of classes/tutorials, basic of programming, versioning, parallel programming, particular software.

Afternoons are for active exercises (using the cluster)

***Day 1***: Basics of clean programming, keeping track of programs, Subversion/Git/VCS. A brief tutorial in R, programming a function in R. At then end of the class, students should be able to run somebody else's programming sequence, commit to a code repository, understand a proper subroutine/function in R, know how to choose a favorite (cross-programming-language?) editor

***Day 2***: Basics of SAS (John/Lars/CISER): Data steps, different procs; at the end of the class students should be able to write simple SAS programs, understand how to write a proper (reusable) macro that is a subfunction. Know how to debug. Understand differences between Windows SAS and Linux SAS.

***Day 3***: Basics of Stata (Matt/Rick/others). Difference to SAS, different utilities. At the end of the class, students should be able to write simple Stata programs, understand how to write a Stata “program”, know how to debug. Understand differences between SAS and Stata.

***Day 4a***: Basics of R (?). At the end of the class, write simple R programs, understand how to program a R function, how to debug.

***Day 4b***: Basics of Matlab (Victoria/others). At the end of the class, write simple Matlab programs, a Matlab routine, how to debug.

***Day 5***: Basics of parallel programming in SAS/R/Matlab. Understand how to do some things, how not to do others. At the end of the class, each student should be able to completely task out the cluster for exactly 5 minutes...