Instructor:
Peng Liu  email: peliu@haas.berkeley.edu
Alexander Vedrashk  email: vedrashk@haas.berkeley.edu
Course Website: http://faculty.haas.berkeley.edu/peliu/computing

Time and Location: see website for updated schedule. Room: S300T

Description:

SAS is a statistical and econometric package that is widely used in the financial industry. The main objective of this course is to provide a review of the standard tools on SAS environment useful for economic and financial analysis. The class will concentrate on the strengths of SAS. It should enable you to cope with a typical skills that you may encounter in your job interview.

Syllabus:

LECTURE 1 - PENG - Introduction to SAS
1.1 The SAS environment
1.2 SAS DATA step and PROC step
1.3 Input Data and Importing/Exporting Data
1.4 Display SAS Dataset
1.5 SAS Functions (Mathematical, Statistical, Character)
1.6 Data Type conversions
1.7 SAS date and time: value, formats and functions
1.8 Title and Footnotes
1.9 System Options and Dataset Option

LECTURE 2 - ALEXANDER - SAS data management
2.1 Flow-Control: IF-THEN-END
2.2 Manage Variables: Keep, Drop, delete
2.3 Where and subsetting IF
2.4 Concatenating Two Data Sets
2.5 Interleaving Two data sets
2.6 one-to-one Merge
2.7 Match-Merging
2.8 Merging datasets: IN
2.9 Array

LECTURE 3 - PENG - Financial Modeling-PROCedures

Module 1: Commonly Used PROCedures in Financial Economics
3.1.1 Statistical Analysis I: (PROC MEANS; PROC UNIVARIATE; PROC FREQ)
3.1.2 Statistical Analysis II: (PROC CORR; PROC NPAR1WAY; PROC TTEST)
3.1.3 Linear Models: (PROC REG; PROC GLM)
3.1.4 Logistic Regression (PROC LOGISTIC; PROC GENMOD)
3.1.5 Hazard Regression (PROC PHREG)
Module 2: SAS / SQL (Structural Query Language)

3.2.1 Selecting Data
3.2.2 Ordering Data
3.2.3 Subsetting Data
3.2.4 Restructuring Data
3.2.5 Creating Table and View
3.2.6 Joining Tables: (Cartesian Join; Inner Join; Left Outer Join; Right Outer Join; Outer Union)
3.2.7 Transforming variables and SQL functions
3.2.8 Editing (Insert, delete, Update)

Module 3: SAS / IML (Interactive Matrix Language)

3.3.1 Defining Matrix
3.3.2 Creating Matrix
3.3.3 Combining Matrix
3.3.4 matrix Algebra (Functions, Reduction Operators)
3.3.5 Read-In SAS Data Sets
3.3.6 Create SAS Data Sets

LECTURE 4 - ALEXANDER- SAS Macro
4.1 Arrays; Do Until loops
4.2 Lag function and Retain statement
4.3 Macro
4.4 Econometrics Made Easy (PROC ARIMA; PROC AUTOREG; PROC MODEL)

References:

- "The little SAS book: A Primer" by Lora D. Delwiche, Susan J. Slaughter
- Online Doc: http://support.sas.com/documentation/onlinedoc/index.html
- Biao Xing SAS workshop notes, Biostatistics, U.C.Berkeley