SYLLABUS

1. USEFUL REFERENCES

Three useful references for the course are Gelman et al. (2014), which covers applied Bayesian inference and Markov Chain Monte Carlo (MCMC) methods, Kilian and Lütkepohl (2017) for structural VAR's, and Wooldridge (2010) which covers panel data and cross section methods.

2. REMARKS ON "MODERN" REGRESSION ECONOMETRICS

- Bootstrap
- Bayesian bootstrap
- Randomization inference, design-based inference.

3. MARKOV CHAIN MONTE CARLO METHODS

- Metropolis, Metropolis-Hastings, Gibbs. Data augmentation.

4. LINEAR TIME SERIES MODELS

- ARMA models
- System roots and time series properties
- Estimation for univariate models

5. GROUPED DATA

- Random and "fixed" effects
- "Mixed" models
- Panel data: Lagged endogenous variables

6. VAR'S AND SVAR'S

- VAR's, impulse responses, error bands for them
- Granger causal priority, posterior odds on restrictions
- Cointegration
- Structural VAR's

7. CAUSALITY WITH HETEROGENEITY

(If there's time.)

- Bayesian treatment of weak instruments
- IV with heterogeneity: LATE, mixed models
- Propensity scores, control functions, IV

REFERENCES

GELMAN, A., J. B. CARLIN, H. S. STERN, D. B. DUNSON, A. VEHTARI, AND D. B. RUBIN (2014): *Bayesian Data Analysis*, CRC Press, third ed.

KILIAN, L. AND H. LÜTKEPOHL (2017): *Structural Vector Autoregressive Analysis*, Cambridge University Press.

WOOLDRIDGE, J. M. (2010): *Econometric Analysis of Cross-Section and Panel Data*, MIT, second ed.