

Schedule of Activities
 Psychology 319
 Structural Equation Modeling
 Spring 2014

Date	Topics	Assignments
<i>Week 01</i>		
01/08	<p><i>Organizational Meeting</i></p> <ul style="list-style-type: none"> Instructor Information Office Location Office Hours Contact Information Meeting Times and Location Course Textbooks Course Website <p><i>Lecture Topics:</i></p> <ul style="list-style-type: none"> Course Introduction Review of Basic Algebra of Variances, Covariances, and Correlation Introduction to Matrix Algebra Matrix Calculation in R 	<p>Install R and RStudio</p> <p>Optionally, Download the Full TeXLive installation and install it.</p> <p>Read Covariance Algebra and Matrix Algebra chapters in the <i>Statistics Handouts</i> Section of the website.</p> <p>Download the student version of MPlus and install it.</p>
<i>Week 02</i>		
01/15	Matrix Algebra of Sample Statistics	<p><i>Optional Reading</i></p> <p>Rencher, Chapter 02</p>
<i>Week 03</i>		
01/22	<ul style="list-style-type: none"> Random Vectors and Matrices Matrix Expected Value Algebra Eigenvalues and Eigenvectors Matrix Decomposition and Simulation Rank m Least Squares Approximation of a Symmetric Matrix 	Start Homework 01, due by email in 10 days

<i>Date</i>	<i>Topics</i>	<i>Assignments</i>
Week 04		
01/29	<p>The Algebra of Least Squares Linear Regression</p> <p>Variables as Vectors in n-Dimensional Space</p> <p>Full Rank Orthogonal Projection Operators</p> <p>The Determinant and Generalized Variance</p> <p>Revisiting Regression via Projection</p>	<p>Read: Mulaik LCMwSE, Chapter 02</p> <p><i>Optional</i> Johnson and Wichern, Chapters 02-03</p>
Week 05		
02/05	<p>Common Factor Analysis — The Early History</p> <p>The Common Factor Analysis Model</p> <p>The 3 Indeterminacies of Factor Analysis</p> <p>The Number of Factors Problem</p> <p>Exploratory Factor Analysis</p> <p>Maximum Likelihood Estimation</p> <p>Statistical Testing in Factor Analysis</p> <p>Regression Component Analysis</p> <p>Principal Component Analysis</p>	<p>Read: Steiger94</p> <p>Start Homework 02, due in 1 week</p>
Week 06		
02/12	Confirmatory Factor Analysis	