

Cover Sheet: Request 10013

QUANTITATIVE RESEARCH METHODS AND DATA ANALYSIS

Info

Process	Course New Ugrad/Pro
Status	Pending
Submitter	Lee,Shawn F shawnlee@ufl.edu
Created	2/5/2015 3:15:43 PM
Updated	8/26/2015 4:57:21 PM
Description	This doctoral-level course introduces multivariate data analysis and mathematical models in Marketing Theory often called Marketing Science. This course covers basic and advanced multivariate data analysis with applications for business, marketing research and consumer behavior. Course reading cover both classic and state-of-the-art articles in Marketing Science.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CBA - Marketing 011708000	Alba, Joseph W		2/5/2015
Added UCC - DBA - MAR 7627.docx					2/5/2015
Added SYLLABUS - DBA - MAR 7627.pdf					2/5/2015
College	Approved	CBA - College of Business Administration, Warrington	Mathis, Renee C		2/5/2015
No document changes					
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Garfield, Wanda	This request was accidentally denied. It was reopened per Brandi Baker's request to be pending at UCC.	8/27/2015
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			8/27/2015
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					

Step	Status	Group	User	Comment	Updated
No document changes					

Recommended SCNS Course Identification

1. Prefix MAR 2. Level 7 3. Number 7627 4. Lab Code L

5. Course Title QUANTITATIVE RESEARCH METHODS AND DATA ANALYSIS

6. Transcript Title (21 character maximum) QUANT DATA ANALYSIS

7. Effective Term Fall 8. Effective Year 2015 9. Rotating Topic? Yes

10. Amount of Credit 3 11. If variable, # minimum and # maximum credits per semester.

12. Repeatable credit? No 13. If yes, total repeatable credit allowed #

14. S/U Only? No 15. Contact Type Regularly Scheduled [base hr]

16. Degree Type Professional 17. If other, please specify: [Click here to enter text.](#)

18. Category of Instruction Advanced

19. Course Description (50 words maximum)

This doctoral-level course introduces multivariate data analysis and mathematical models in Marketing Theory often called Marketing Science. This course covers basic and advanced multivariate data analysis with applications for business, marketing research and consumer behavior. Course reading cover both classic and state-of-the-art articles in Marketing Science.

20. Prerequisites

Basic Statistics (QMB 5303, QMB 5304 or equivalent)

21. Co-requisites

[Click here to enter text.](#)

22. Rationale and Placement in Curriculum

This course is similar to MAR 7626 (Multivariate Analysis) for PhD students. However, the course is targeted toward D.B.A. students. Hence, the course emphasizes research-based profession practice (vs. purely scholarly research), applied research (vs. theoretical research) and rigor (vs. novelty and contribution). The course is more theory-based than an M.B.A. course but stresses theory development less than an advanced PhD research course.

23. Complete the syllabus checklist on the next page of this form.

Syllabus Requirements Checklist

The University's complete Syllabus Policy can be found at:

http://www.aa.ufl.edu/Data/Sites/18/media/policies/syllabi_policy.pdf

The syllabus of the proposed course **must** include the following:

- Course title
- Instructor contact information (if applicable, TA information may be listed as TBA)
- Office hours during which students may meet with the instructor and TA (if applicable)
- Course objectives and/or goals
- A weekly course schedule of topics and assignments.
- Methods by which students will be evaluated and their grades determined
- Information on current UF grading policies for assigning grade points. This may be achieved by including a link to the appropriate undergraduate catalog web page:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.
- List of all required and recommended textbooks
- Materials and Supplies Fees, if any
- A statement related to class attendance, make-up exams and other work such as: *"Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>."*
- A statement related to accommodations for students with disabilities such as: *"Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation."*
- A statement informing students of the online course evaluation process such as: *"Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>."*

It is **recommended** that the syllabus contain the following:

- Critical dates for exams or other work
- Class demeanor expected by the professor (e.g. tardiness, cell phone usage)
- The university's honesty policy regarding cheating, plagiarism, etc.

Suggested wording: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

- Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies



Quantitative Research Methods and Data Analysis – 3 credits, graded
Spring 2016

Course Syllabus

Instructor

Steven M. Shugan
McKethan-Matherly Eminent Scholar Chair and Professor
E-mail: Steven.shugan@warrington.ufl.edu

Textbook

Multivariate Data Analysis, 7th edition by Joseph F. Hair, William C. Black, Barry J. Babin, Rolph E. Anderson,
Prentice-Hall: Upper Saddle River, N.J., ISBN: 0138132631

Lecture Notes and Handouts are available in class or on course website

Software

We focus on research design and analysis rather than software. Students can use any advanced statistical software available to them to complete the course assignments. However, class examples will use IBM SPSS for Windows which is a full version of the SPSS software (SPSS Base, SPSS Regression & SPSS Advanced Statistics). See: <http://www-01.ibm.com/software/analytics/spss/>

The SPSS software should be available at the University of Florida Bookstore at the Reitz Union or online (usually on a time-limited license) at:

<http://www.onthehub.com/spss/>

<http://studentdiscounts.com/search.aspx?find=SPSS>

Do not confuse this software with the Business Version or Student versions – neither version is useful for this class. The appropriate software includes the Multivariate General Linear Model. Version 13.0 and newer versions also include Amos for estimating structural equation models.

Course Content

This course covers basic multivariate data analysis with an emphasis on applications for business, marketing research and consumer behavior. The course is an introductory survey that compares and contrasts many different multivariate techniques. The course emphasizes applications of multivariate analysis from a conceptual viewpoint as well as research design. IT IS NOT A COURSE ON STATISTICAL SOFTWARE. Although class examples employ SPSS software, very little class time is devoted to software specifics. Students are free to use different software packages.

This course is NOT intended to be a mathematical development of multivariate statistical techniques and, as noted, it not intended to be a programming course on using statistical packages. In contrast, the course emphasizes the design of a multivariate research project, the choice of a multivariate method, the testing of the fundamental assumptions underlying various

multivariate methods, the validation of a multivariate analysis, the important issues involved in evaluating the quality of a multivariate data analysis and interpretation of the results.

This course provides an overview of multivariate methods, differences between the methods and the application of these methods in the academic literature. The course covers a large number of multivariate methods used in social sciences including:

Approaches for missing data

Analysis of Outliers

Multiple Regression Analysis

Multiple Discriminant Analysis

Multivariate Analysis Of Variance

Canonical Correlation

Factor Analysis

Cluster Analysis

Multidimensional Scaling

Conjoint Analysis

Structural Equation Modeling

Logit Models

Course Objectives

- To introduce different methods for multivariate data analysis.
- To explain how to match multivariate techniques with research objectives.
- To test the assumptions and interpret the results of a multivariate analysis.
- To understand the issues in the estimation and validation of a multivariate analysis.
- To understand research employing various multivariate techniques

Student Evaluation

- 40% Best score on two of three quizzes. A missed quiz receives zero points. There are NO make-up quizzes! The subsequent section provides more details.
- 30% Two exercises involving multivariate analysis of various datasets, obtaining the results, and interpreting those results. The subsequent section provides more details.
- 30% An article critique providing a critical review (not a summary!) of a published article in a respected scholarly journal by the due date. The subsequent section provides more details.

Quizzes

The quizzes focus on conceptual understanding rather than memorization. The quizzes are generally closed-book. Quizzes focus on the material from the textbook and class sessions. The quizzes are designed to provide feedback on student mastery of the material but also provide a learning experience. The lowest quiz score is dropped. Each quiz usually emphasizes the material covered since the last quiz but quizzes can cover past material as well. There are no make-up quizzes. Sample quizzes are available on the course website.

Exercises

Exercises provide the opportunity for students to apply the course concepts to various datasets. Beyond data analysis, another important goal of the exercises is the interpretation of computer output and determining the implications of that output. Given that different students employ different statistical packages and different options within those packages, it is only possible to check the final numbers rather than detect errors in the steps leading to those numbers. Hence, grading focuses on getting final numbers that make sense and the interpretation of those numbers. Each exercise is pass-fail.

Article Critiques

Each student should select a publically available published article that includes an analysis employing one of the statistical techniques covered in the course. The article should be published in a respected scholarly journal. The article should provide sufficient details to allow a conscientious review.

The critique should be no longer than 3000 words (approximately 6 double-spaces pages), excluding the appendix. I will not read more than the first 3000 words. The critique should provide a critical review (not a summary!) of the article with an emphasis on the strengths and any weakness of the analysis. The critique should focus on the analysis in the article rather than the substantive contribution of the article. The critique should clearly state the objectives of the analysis and determine whether those objectives were achieved by the article. It is highly recommended that the organization of the critique follows the structured approach in the textbook (i.e., define the research problem, develop an analysis plan, evaluate the assumptions, estimated the model, etc.). See the links on the course website.

The article-critique **MUST BE COMPLETED BY THE DATE SHOWN** on the course outline. Although the length of the critique is strictly enforced, the critique can include an appendix of any length. The appendix should only supplement the body of the critique and should not include stand-alone items. For example, the appendix might include a table that supports statements made in the body of the critique or the appendix might include an analysis supporting a claim made in the body of the critique. The appendix should only contain material referenced by the body of the critique.

You **MUST** include a copy of the published article with your written article critique. All assignments should be either in Microsoft Word or Adobe (PDF) format.

Links

How to Review an Article

- [Link 1](#) How to Review an Article
- [Link 2](#) How to Review an Article
- [Link 3](#) How to Review an Article
- [Link 4](#) How to Review an Article
- [Link 5](#) How to Review an Article
- [Link 6](#) How to Review an Article
- [Link 7](#) How to Review an Article
- [Link 8](#) How to Review an Article

Sample Quizzes

- [Sample quiz 1](#)
- [Sample quiz 2](#)
- [Sample quiz 3](#)

Course Outline

Date	Topic	Book Chapter	Handouts
I. Pre-Analysis			
1/29	Multivariate Overview	1	Technique Overview; Finding Optimal Estimates
	Multivariate Data & Relationships	2	Multivariate Spreadsheet Example
1/30	Exploratory Factor Analysis	3	Matrix Inversion; Multivariate Mathematics
II. Dependence Methods			
	Multiple Regression	4	Partial Correlation Analysis

1/31	Multiple Discriminant Analysis	5	Multiple Discriminant in SPSS
	Logistic Regression	6	Logistic Regression PASW
4/1	Canonical Correlation Analysis		Canonical Correlation; Canonical Scripts
	Multivariate Analysis of Variance	7	MANOVA Post Hoc Tests
4/2	Conjoint Analysis	8	Conjoint in SPSS
III. Interdependence Methods			
	Cluster Analysis	9	Cluster Analysis
	Multidimensional Scaling	10	Non-Metric Scaling
Section Four – Moving Beyond the Basic Techniques			
4/3	Structural Equations	11	Structure Equations in AMOS

Lecture Notes on Course Website

There are textbook PowerPoint slides available for all chapters on the course website. In addition, please see my own course handouts.

Canonical Correlation
 Canonical in SPSS
 Cluster Analysis
 Conjoint Analysis
 Conjoint in SPSS
 Course Syllabus
 Factor Analysis
 Finding Optimal Estimates
 MANOVA Post Hoc Tests
 Matrix Inversion
 Multiple Discriminant Analysis
 Multiple Discriminant in SPSS
 Multiple Regression
 Multivariate Analysis of Variance
 Multivariate Data and Relationships
 Multivariate Mathematics: Algebra of Summations
 Multivariate Overview
 Multivariate Spreadsheet Example
 Non-metric Scaling
 Structural Equations
 Technique Overview

SPSS

The course will provide some sample applications using IBM SPSS for Windows. This software is not required for the course and students may use whatever software package they find appropriate. However, the instructor will only be able to provide assistance for the interactive version of SPSS.

Description of HATCO Database Variables

The data are available on the course website.

You should be able to open the file by: launching Microsoft Excel, going to the File menu, going to the open sub-menu and typing the preceding line into the file-name box. Of course, you must have an internet connection.

The format of the excel file is:

Variable	Perception/Purchaser Characteristic	Variable Description	Variable Type
X1	Perception	Delivery speed	Independent/Metric
X2	Perception	Price level	Independent/Metric
X3	Perception	Price flexibility	Independent/Metric
X4	Perception	Manufacturer's image	Independent/Metric
X5	Perception	Overall service	Independent/Metric
X6	Perception	Salesforce's image	Independent/Metric
X7	Perception	Product quality	Independent/Metric
X8	Purchaser Characteristic	Size of firm	Independent or Dependent/Nonmetric
X9	Purchase Outcome	Usage level	Dependent/Metric
X10	Purchase Outcome	Satisfaction level	Dependent/Metric
X11	Purchaser Characteristic	Specification buying	Independent or Dependent/Non-metric
X12	Purchaser Characteristic	Structure of procurement	Independent or Dependent/Non-metric
X13	Purchaser Characteristic	Type of industry	Independent or Dependent/Non-metric
X14	Purchaser Characteristic	Type of buying situation	Independent or Dependent/Non-metric

X1-X8: Perceptions of HATCO A scale from 0 (Poor) to 10 (Excellent) was used.

X8: Size of firm 1 = large; 0 = small

X9: Purchase Outcomes

Usage level -- how much (0 to 100%) of the firm's total product is purchased from HATCO

X10: Satisfaction level Scale from 0 (Poor) to 10 (Excellent)

X11: Specification buying 1 = total value analysis; 0 = specification buying

X12: Structure of procurement 1 = centralized; 0 = decentralized

X13: Type of industry 1 = Type A; 0 = other

X14: Type of buying situation -- 1 = new task; 2 = modified rebuy; 3 = straight rebuy

QUESTIONNAIRE

Your name:

Your department or current position

Your e-mail Address

Statistical Computer Packages you are familiar with (if any):

Why are you taking this course?
What do you hope to get out of it?

What topics would you like emphasized?

Describe your mathematical and statistical background. What recent courses have you taken?

Status in course (registered, planning on registering, auditing, etc.)

Also, PLEASE E-mail your completed questionnaire to SMS@UFL.EDU