

American University  
School of International Service  
International Development Program

**INTRODUCTION TO QUANTITATIVE METHODS  
IN INTERNATIONAL RELATIONS  
(SIS.600.02)**

**Fall 2008**

Instructor: Professor Vidyamali Samarasinghe

Office Hours: Monday 3.00-5.00 p.m.

Tuesday 5.00 -7.00 pm by appointment

(Consultations during office hours are scheduled by appointment). You will find sign up sheets posted in the IDP office. When you do sign up, please be sure to leave your phone number so that you can be called in case of a conflict or an emergency.

Office: 204A Hurst Building

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Email: [svidy@american.edu](mailto:svidy@american.edu)

Class Meetings: Tuesday 2.10-4.50

**Required Texts**

1. Joseph F. Healey. *Statistics: A Tool for Social Research*. Belmont, California: Wadsworth.

**Course Description**

This course is designed to strengthen research-methods proficiency that will enhance student's skills and marketability as International Relations professionals. Using material from different branches of the current discourse in International Relations the course will focus on basic quantitative methods and analytic research techniques.

The course will consist of several modules, which are closely connected to each other. The main goal of the course is to give the students in different branches of International Relations the necessary skills to define research problems, to operationalize them and to use different types of quantitative techniques to describe and analyze the numerical data they may use in their research. Statistics involve the collection, display, analysis and interpretation of numerical information. The course progresses from elementary components of descriptive statistics to using inferential statistics, hypotheses testing and to understanding the use of simple statistical modeling techniques. At every stage we will be using material related to International Relations issues. Students will be encouraged to explore new areas of scholarship and activity in International Relations for their group and individual assignments.

Students are expected to learn to use statistical soft ware program SPSS. A few Computer based skills sessions are scheduled during class time, starting week 4. Students

are then expected to practice the use of the SPSS program on their own time. Please use the facilities provided in the Social Science Computer Lab. located in the Hurst building. It is mandatory to use the statistical program for the final research paper.

### **Required**

Beginning week 3 (September 9) and ending week 11 (November 3) each student enrolled in this class is required to sign up for a 15 minute meeting with the professor. My office hour sign up sheets are posted in the ID office in the Hurst building. You may choose any date listed in the sign up sheets. These one-on-one meetings are to ensure that each student understands the class requirements. It also creates an opportunity for the professor to understand the individual expectations of a student in relation to quantitative methods,

**\*\*\* Please note that in addition to this required meeting, a student is free to sign up to meet the professor any number of times during her office hours.**

### **Use of the Text Book**

I will be using the text book for this course quite extensively. Examples and illustrations that I use in explaining different statistical methods are drawn from the text.

**But please note that I do not follow the exact sequence of the chapter plan of the text book.**

Starting with session 4 we will use part 1 of the text: Descriptive Statistics (Chapters 2-5). Then move on to Part III and IV: Bivariate Measures of Association and Multivariate Techniques, (Chapters 12-15). Then we return to Part II: Inferential Statistics (Chapters 6-11). Moving directly from descriptive statistics to bivariate and multivariate associations makes it easier to build up the conceptual and statistical knowledge necessary to effectively use the latter in your research assignments.

### **Class Structure**

Students in this class will be divided into several groups and they are expected to work within their assigned groups throughout the semester. Group members are expected to meet outside class time to discuss course-related assignments, exercises and group presentations in class. Periodically, the instructor will meet with different groups during office hours.

### **Course Expectations**

As a graduate level course you are expected to share the responsibility for contributing to the learning experience within the classroom. You are required to attend all classes and do all the assignments. If a student misses a class s/he will find it difficult to catch up. If a student is not showing satisfactory progress and has missed more than two classes (without a valid excuse), no remedial assistance will be provided.

A sign up sheet will be distributed at the beginning of each class session.

A reading schedule has been provided. In addition, handout material will be distributed in class periodically. All assignments should be completed and handed in on the date specified. Late submissions will be downgraded one point from the numerical grade for

every day late (for example from 84% to 83%), unless a valid excuse has been offered and accepted by the instructor. Please make an extra copy of all assignments submitted for grading.

### **Homework**

Homework exercises on different quantitative methods discussed during class sessions are a regular feature of this course. Your homework assignments should be neatly presented. It should have a cover page with the title of the assignment, your name, ID number and date of submission. No scrap paper please. Untidy work will be down graded. All homework exercises will be assigned numerical grades.

### **Course Evaluation**

The final grade will depend on the student's overall performance and involvement in the tasks assigned throughout the course. Numerical graded will be assigned to all graded work. Letter grades will be assigned only at the end of the semester.

Correspondence between the numerical and letter grades is as follows:

A	96-100	C+	68-72
A-	90-95	C	62-67
B+	85-89	C-	59-63
B	79-84	D	54-58
B-	73-78	F	Below 54

Final Grade will consist of the following:

Mid-term Examination	30%
<b>Due Date –October 14</b>	
Homework Assignments	30%
Final Research Paper	
<b>Due Date- December 5</b>	35%
Class participation	05%
<b>Total</b>	<b>100%</b>

**Incompletes for this course will be considered only under exceptional (very) circumstances.**

### **Academic Integrity Code**

All students are governed by American University's academic integrity code. By the registering for this course, you have acknowledged your awareness of the academic

integrity code, and you are obliged to become familiar with your rights and responsibilities as defined by the code. All of your work in this class ( whether oral or written) is governed by the provisions of the academic integrity code.

## **COURSE SCHEDULE**

### **Part I.**

#### **Research and Quantitative Analysis in International Relations**

##### **Week 1. August 25**

**Introduction to the Course: Course overview and organization.  
The “real world” of quantitative analysis.**

How numbers fit in International Relations Research

Distribute syllabus.

Instructions on group networking.

Discussion of the class format for session 2.

##### **Week 2. September 2**

**International relations research. Issues, processes and problems.**

Discussion of concepts, definitions, research themes and data sources.

##### **Readings**

Healey, Introduction. (Text) pp, 1-7.

Darrel Huff- “How to Statisticulate”, in Darrel Huff, *How to Lie with Statistics*. W.W. Norton) (Blackboard).

World Development Report. World Bank. 2004. Overview. (Blackboard) Also available on line.)

##### **Week 3. September 9**

**Understanding the structures and processes of data gathering.**

How do we collect numerical data?

Where do you start?

**Each group will be assigned the task of reviewing how different agencies/institutions gather numerical data. (This assignment will not be graded)**

**Afro barometer**

**Transparency International**

**Freedom House**

**Human Development Report (UNDP)**

**World Development Report**

**Euro Barometer**

## PART II. Descriptive Statistics

### **Week 4. September 16**

#### **Ratios and Indexing.**

**Scales of measurement; measures of central tendency and variability; the normal curve; standard scores.**

#### Readings

Healey: Chapters 2, 3, 4 and 5: Pp24-56; 68-82; 96-113; 121-136.

Page numbers may vary in different editions of the text book.

**Distribute homework assignments. (graded)**

### **Week 5. September 23**

**2.10-3.20 Statistical software package instructions.**

**Venue: Social Science Computer Lab. Hurst Building.**

**\*\*\* Note the change of venue for this segment of the class. Be sure to be in class before 2.10 Instructions will start promptly at 2.10**

**3.30 to 4.50**

**Venue: class room**

**Describing relationships between variables. Simple measures of association.**

Preliminary instructions and discussions on your research design and final research paper assignments. You should discuss your research interests with members of your assigned peer group. You should arrange an appointment with your instructor to discuss your research. The feedback from your peers in your group should be made available to the instructor at this meeting.

#### Readings

Healey: Chapters 13 and 14.

**Distribute homework assignment on bivariate relations (graded).**

**Due: Homework assignments on measuring central tendency, variability and on Calculating Z scores.**

### **Week 6. September 30**

**Bivariate correlation/regression and rank order correlation**

#### Readings

Healey: Chapters 15 and 16.

**Distribute homework assignment on bivariate correlations and regressions (graded)**

**Week 7. October 7**

**2.10 to 3.20. Statistical software package instructions.**

**Venue: Social Science Computer Lab. Hurst Building**

**3.30-4.50**

**Venue: Class room**

Review session for Mid-term examination.

**Due: Homework on bivariate correlation/regression.**

**Week 8- October 14**

**Mid-term Examination (2.10-4.50)**

**Week 9 – October 21**

Review of graded Mid-term exams

**Partial correlations and Multiple correlations and regressions**

Chapters 16 and 17.

**Part III.**

**Sampling and Inferential Statistics**

**Week 10. October 28**

**Discussion of Research projects. How do you construct a research question? How do you get your numerical data? What lessons have we learned from home work assignments and analysis of data bases on interpreting statistical data?**

Hand out on the research design will be distributed in class.

**Logic of sampling**

**Readings**

Earl Babbie. “The Logic of Sampling” (Black board)

Darrel Huff. “The Sample with a Built-in Bias” (Black board)

### **Week 11. November 3**

#### **Statistical Sampling.**

**Introduction to inferential statistics. Sampling. Estimating a population mean. Standard error of the mean and confidence intervals.**

#### **Readings**

Healey: Chapters 6 and 7.

**Group-based Class room work.**

**Due: Research design (5% of the grade of the final research paper)**

### **Week 12. November 10**

**Chi-square and other non-parametric measures of association.**

#### **Reading**

Healey: Chapters 8, 9 and 11.

**Progress in individual research projects. In this session we will discuss the data bases each of the students will be using. Each student should prepare a one page document identifying the data bases. We will use class time to discuss common issues and problems**

**Distribute homework assignment on Chi square (graded)**

### **Week 13. November 17**

**Analysis of variance.**

#### **Reading**

Healey: Chapter 10.

**Discussion of research projects. In this session we will concentrate on statistical methods used by each student in her/his research project**

**Distribute homework assignment on Analysis of variance (graded)**

**Due: Homework on chi-square and other non-parametric measures of association.**

**November 24. Thanks giving holiday break.**

**No class.**

**Week 14. December 2**

**Research Projects: Class presentations.**

**We have already devoted class time to a discussion of data bases and statistical methods used by each student. In this session the students are expected to respond briefly to 3 fundamental questions. Each student should prepare a one page brief to be distributed to the rest of the class.**

- 1. How did you derive your research question?**
- 2. How do you interpret your statistical analysis in responding to the research question?**
- 3. What are your recommendations for future research?**

**Due homework on the Analysis of variance**

**December 5 (Friday). 12 noon IDP office**

**Due: Final Research paper.**

Graded final research papers will be available in the International Development Program office by December 15.