INSTRUCTOR: Dr. Cole D. Taratoot  
OFFICE: HHB 413  
PHONE: (205)934 – 8685  
EMAIL: taratoot@uab.edu  

OFFICE HOURS: M/W, 2 – 3:30pm and by appointment  

COURSE DESCRIPTION:  

This course is intended to provide an introduction to basic statistical techniques used by social scientists and public administrators and assumes that you have completed and mastered the material presented in MPA 606. The statistical techniques you will learn are really just tools to effectively organize data and present information about the world around you. These techniques are broadly organized under the categories of descriptive statistics and inferential statistics.  

Just as important, however, this course is designed to help you become informed consumers of social statistics. This will involve attaining an awareness of the many uses of statistics in everyday life, gaining the ability to think critically about the use of statistics, and developing the skills necessary to interpret and critique social scientific research employing these techniques.  

This course is designed to introduce you to the logic of statistical analysis, not to test your mathematical abilities. A rudimentary familiarity with basic arithmetic and a few algebraic functions will suffice for material presented in the course. This means that, even if you are insecure about your math prowess, this class should not intimidate you. More than anything, success in this course requires diligence. The material covered in the course is very incremental, with the presentation of new material building on what you learn in earlier segments of the course. You will have the greatest chance of success if you attend class regularly, take meticulous notes, keep up on your reading, and make sure to visit during office hours to get clarification on issues about which you are unsure.  

LEARNING OBJECTIVES:  

(1) Students will gain an understanding of how to calculate and interpret descriptive statistics by hand using paper, pencil, and a calculator as well as how to think critically about the use of descriptive statistics. Although it can be time-consuming, learning to calculate statistics in this way is essential to the development of a solid understanding of the concepts. Homework assignments #1 and 2 and the midterm exam will be used to assess each student’s learning outcome related to this objective.
(2) Students will gain an understanding of how to calculate and interpret inferential statistics as well as how to think critically about the use of descriptive statistics. To accomplish this objective, students will learn how to read and understand journal articles in public administration. Homework assignments #3 and 4, the final exam, and the multivariate analysis project will be used to assess each student’s learning outcome related to this objective.

(3) Students will learn how to use a computer program (SPSS) to analyze statistical data and then to make sense of the output you generate. In practice, once social scientists have mastered statistical concepts, they rarely compute them by hand; rather, they use sophisticated but user-friendly computer programs to perform these calculations. The two methods of calculating statistics—by hand and by computer—are equally important and highly related. Therefore, each assignment requires you to perform some calculations by hand and to answer some questions related to computer analyses performed using a program called SPSS (Statistics Package for the Social Sciences). The statistical techniques you are learning will be similar, but the methods are different. The homework assignments and multivariate analysis project will be used to assess each student’s learning outcome related to this objective.

COMPUTERS AND SOFTWARE:

Because computers have become a central part of social science research, this course also has a computing component. We will be using SPSS for Windows, possibly the most popular statistical software package used by social scientists today, for part of most class exercises. You will be able to work on your computer assignments using the computers in the HHB computer labs (and other campus labs), all of which have SPSS for Windows already installed.

POLICIES:

Students are expected to act like adults in the classroom. Students causing disruptions will be asked to leave. TURN OFF ALL CELL PHONES. Please do not text or use your phone during class. If you do, I reserve the right to confiscate your device until the end of class. TOBACCO USE OF ANY KIND IN CLASS IS STRICTLY FORBIDDEN.

PLAGIARISM:

Students are expected to know what constitutes plagiarism (i.e., presenting the work, idea, argument, or illustration of another as your own without properly attributing it to the author or source). This also includes submitting work done for another class in this class for credit. Any student found to have plagiarized will receive an F for the course.

In addition to turning in a hard copy of your final project, you must also turn in an electronic copy via Blackboard through the Turnitin software. Turnitin is a program that identifies instances of plagiarism by comparing the text of the paper to online sources, scholarly sources, and papers turned at this and other Universities. In short, it would be best if all of your work is original, cited properly, and quoted when necessary.

CHEATING:

THERE IS NO EXCUSE FOR CHEATING. Any student caught cheating or helping someone else cheat will receive an F for the course. For more information about academic
dishonesty, including cheating and plagiarism, consult the Graduate Student Handbook, pgs. 15 – 18, “Academic Ethics and Conduct: Academic Integrity – Honor Code.”

EQUAL OPPORTUNITY AND NON-DISCRIMINATION POLICY:

UAB is committed to equal opportunity and a campus environment free of harassment and discrimination based on race, color, creed, religion, national origin, sex, age, disability, marital status, sexual orientation, or veteran status. If you feel you have been harassed or treated unfairly by either an instructor or another student, please contact the Non-academic Conduct Officer, Disability Support Services (for disability discrimination) or the Office of the Vice Provost for Student and Faculty Success. Visit http://www.uab.edu/handbook/f-policies-procedures/f-equal-opportunity for more information.

DISABILITY ACCOMMODATIONS:

If you are registered with Disability Support Services, please make an appointment with me as soon as possible to discuss accommodations that may be necessary. If you have a disability but have not contacted Disability Support Services, please call 934-4205 or visit DSS at 516 Hill University Center.

EMAIL:

Students are expected to check their email at least one per day to check for course related communications. Thus, you are responsible for ensuring that your Blazer email is received. This means if you are forwarding it to an inactive account, you will need to update the forwarding info so that you are receiving it.

Students are expected to email the instructor in a professional manner. This means properly addressing the instructor, typing in full sentences and avoiding shorthand text message style, and signing your name. Any email that does not follow this format will be ignored. For emails that follow the proper format, I will typically respond within 1 business day, but do not expect responses over the weekend. Finally, University policy and federal law (FERPA) prohibits me from responding to emails from personal accounts (yahoo, MSN, gmail, etc.). Thus, you should only send emails from your official UAB email address as I will not respond to emails from personal accounts.

STUDENT EVALUATION:

1. **Exams:** There will be two exams (midterm and final) in class during the course of the semester consisting of multiple-choice questions and problem sets. Each test will count toward one fourth (50% total) of the final course grade. Although not strictly cumulative, the material in each examination necessarily makes if of information presented since the beginning of class. Students may use a calculator, notes, and any textbook they choose during examinations. Make-up examinations will only be given for documented serious emergencies and must be taken within one week of the original exam date.

2. **Homework Exercises and Assignments:** There are four homework assignments for the quarter that will be due at the beginning of each class. Homework assignments account for
30% of your course grade (7.5% each). Assignments will be posted on the Blackboard course page under the “Assignments” section.

Each assignment involves problems you will work “by hand” and others based on computer output you will produce. Students are expected to show, in a concise and clear (legible) fashion, the steps that they took to reach the answer given (for some early assignments, there may be not mathematical steps involved, but you should still provide a rationale for your answer). When completing an assignment, the question must be identified, each step in your calculations must be clearly marked, and the appropriate answer given. I reserve the right to assign a grade of zero for a question if I cannot follow your response/work.

Computer printouts should be attached to your homework assignment. Any calculations required should be neatly and clearly written on the computer printout or on a separate, attached page. Please staple your homework.

Late assignments (i.e., assignments turned in after 7:30pm on the due date) will be penalized one point (out of ten) for each day beyond the deadline. Assignments more than two days late will not be accepted.

All assignments must be your original work. You may work together on homework, but if answers require an explanatory response, each student must use their own words. If I suspect that mindless copying is going on, there will be a problem. The main goal of the homework is not necessarily just getting the right answers, but showing you know the proper steps in which to arrive at the proper answer.

3. Multivariate Analysis Project: The final project for the course will involve multivariate analysis of data that you have personally collected. The assignment will be written in essay format and will describe the results of a multivariate analysis. The multivariate analysis project is worth 20% of your course grade. You will turn in both a hard copy and electronic copy via Blackboard through the Turnitin assignment. The project will be discussed in more detail in a separate handout on the first day of class. The multivariate analysis project will be used to assess the primary learning outcome for evaluating one core objective of this course.

4. Learning outcome for evaluating one core objective of the course: The multivariate analysis project will be used to evaluate one core learning outcome of the course. After the successful completion of the course we will save these under each student’s Student Learning Portfolio (SLP). All courses in the MPA program will have these learning outcomes. We will evaluate the SLP for each student at the end of their coursework.

5. Late assignment policy: All assignments, papers, and projects are due at the beginning of class (7:30 pm). Any assignment turned in after the start of class (after 7:30 pm) is considered to be late. The rationale behind this policy is that it is not fair to your fellow classmates for you to have additional time to complete assignments by showing up late for class. Late assignments will be reduced by one letter grade per day late. A day is defined as the 24 hour period beginning at 7:31 pm the day an assignment is due to 7:30 pm the
following date. A day is also ANY subsequent day after an assignment is late. This is NOT limited to class meeting days and includes weekends, holidays, non-class meeting days, etc. No assignment may be turned in by email. There are no exceptions to this rule! Resolve all printing, saving, and formatting issues prior to the due date and time.

GRADING SCALE:
- 90 – 100 A
- 80 – 89 B
- 70 – 79 C
- 60 – 69 D
- < 60 F

TEXT AND OTHER MATERIALS:
- There is one text for the course; which is available at the University Bookstore:
- You will need to have a calculator
- Course notes and other course materials can be found on the Blackboard course page.
## COURSE OUTLINE AND READING ASSIGNMENTS:

<table>
<thead>
<tr>
<th>Date</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 17</td>
<td>SNOW DAY!</td>
</tr>
<tr>
<td>January 24</td>
<td>Frequency Distributions, Chapter 4 (pgs. 61 – 78), Measures of Central Tendency, Chapter 5 (pgs. 79 – 96.)</td>
</tr>
<tr>
<td>January 31</td>
<td>Measures of Central Tendency Continued, Measures of Variability, Chapter 6 (pgs. 97 – 110).</td>
</tr>
<tr>
<td>February 7</td>
<td>Probability and the Normal Curve, Chapter 8 (pgs. 131 – 150). HOMEWORK ASSIGNMENT #1 DUE</td>
</tr>
<tr>
<td>February 14</td>
<td>Probability and the Normal Curve, Chapter 8 (pgs. 131 – 150).</td>
</tr>
<tr>
<td>February 21</td>
<td>Sampling, the Sampling Distribution, &amp; Estimation, Chapter 11 (pgs. 173 – 188), Chapter 6 from Fox and Levin (Blackboard).</td>
</tr>
<tr>
<td>March 14</td>
<td>MIDTERM EXAMINATION HOMEWORK ASSIGNMENT #2 DUE</td>
</tr>
<tr>
<td>March 21</td>
<td>SPRING BREAK! NO CLASS.</td>
</tr>
<tr>
<td>March 28</td>
<td>Correlation and Pearson’s r, Chapter 10 from Levin and Fox (Blackboard)</td>
</tr>
<tr>
<td>April 4</td>
<td>Bivariate Regression, Chapter 18 (pgs. 323 – 353).</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>April 11</td>
<td>Multivariate Regression, Chapter 21 (392 - 403), Multiple regression course primer (Blackboard). HOMEWORK ASSIGNMENT #3 DUE</td>
</tr>
<tr>
<td>April 18</td>
<td>Multivariate Regression, Chapter 21 (392 - 403), Multiple regression course primer (Blackboard).</td>
</tr>
<tr>
<td>April 25</td>
<td>Multivariate Regression Assumptions and Diagnostics, Chapter 19 (pgs. 354 – 367) and Chapter 21 (403 – 408). HOMEWORK ASSIGNMENT #4 DUE</td>
</tr>
<tr>
<td>May 9</td>
<td>Final Exam, Thursday, May 9th 7 – 9:30pm. FINAL PROJECT DUE!</td>
</tr>
</tbody>
</table>
Investigating with Statistics: Research Questions, Hypotheses, and Data

Statistics are the basis of a required course in the MPA program because they provide tools for one of the most common strategies researchers use to answer questions about the social world. As we have discussed in class, statistical techniques can be used to describe patterns and to examine relationships among variables. The tools of statistics can be applied to a virtually limitless range of subject matter. Public administrators might be interested in topics as diverse as discriminatory employment practices, variation across states in incarceration rates, the consequences of divorce, or the roots of political revolutions. Regardless of the topic, successful application of the tools of statistics requires the formulation of a research question, the development of hypotheses, and the gathering and analysis of data. Throughout the duration of this course, our analysis of data using SPSS will focus on cross-national variations in health.

The Health of Nations

Health outcomes are one of the most basic indicators of human well-being. Variables measuring the incidence and prevalence of disease, rates of infant mortality, and life expectancy reflect real conditions that shape the life experiences of all human beings. It is possible to imagine a world in which the health of the citizens of all countries is relatively similar. However, the world that actually exists is not characterized by equality of health outcomes across geographic regions. For a variety of historical, geographic, and economic reasons, substantial disparities in health exist across nations and regions. During the quarter, we will use SPSS to address several research questions designed to help us describe and understand some of these cross-national differences in health. As the course progresses, we will draw on our continually expanding statistical “tool-kit” to answer questions about “the health of nations.” Such questions might include:

* What is the average life expectancy for women world-wide?
* What factors are associated with cross-national differences in infant mortality?
* Are rates of HIV infection different in more developed countries and less developed countries?

The dataset we will use for our SPSS analyses is called World95. This dataset contains health-related information for 109 countries. It is important to keep in mind that there are 191 member states in the United Nations (plus two non-members), so our data do not contain information on all existing countries.

Help!

There are a number of resources available to assist you as you learn to use SPSS. There are also detailed help files on Blackboard for the SPSS component of each assignment.