



## SYLLABUS

### JUSTICE DATA ANALYSIS

FALL SEMESTER 2009

#### **COURSE INFORMATION:**

Subject-Catalog#: JUST A201  
CRN#: 88342 Section#: 602  
Day – Time: T/R - 8:30am-9:45am  
Building/Room#: LIB 214

#### **INSTRUCTOR INFORMATION:**

Instructor: Dr. Brad Myrstol  
Office: LIB 213  
Telephone#: (907) 786-1833  
Dr. Myrstol's e-mail: bmyrstol@uaa.alaska.edu  
Office Hours: Tuesday/Thursday (2:00pm-4:00pm) or by appointment

#### **COURSE DESCRIPTION**

This course introduces students to the basic concepts and procedures of quantitative data analysis. Each of the topics addressed in this course are foundational and are intended to provide students with the essential conceptual and analytic tools required for more advanced study. For example, students will learn about *central tendency* – what the word means, how it is measured, and how criminal justices make use of it in their work. Examples of other concepts to be addressed include: *description, distribution, variance, and correlation*, among others. Students will learn basic computational methods – for example, how to calculate *counts, means, proportions, percentages, ratios*, as well as various *measures of association*. In addition to providing students with these conceptual and computational skills, the course also introduces students to other topics of practical interest – for example, effective presentation and communication of data analysis results. Students will receive basic instruction on the use of statistical and presentation software packages.

\*PREREQUISITES: JUST A110. (Additional Recommended: Quantitative GER requirement, JUST A200)

#### **COURSE OBJECTIVES**

Justice Data Analysis is a course designed to provide students with foundational knowledge of quantitative data analysis and its application to issues of crime, justice, and law. Data analysis is more than simply “crunching numbers.” It is an analytic skill set and a way of thinking that goes far beyond mere mathematical computation. It includes things like knowing how to translate theoretical concepts into researchable questions, understanding what kinds of data are best suited to answering particular kinds of questions, developing valid and reliable measures of justice phenomena, and perhaps most importantly, determining the most effective way to communicate research findings to different constituencies – like other scientists, criminal justice practitioners, professors and fellow students, as well as the community at-large. The skills students will acquire in this course will help them develop the critical thinking and writing skills necessary for future success – as students and as future justice professionals. In line with these course objectives, students can expect a challenging, but not overly burdensome, workload. Those who successfully complete this course will understand the *ethic of empiricism*, though they may not subscribe to it. Students will exit the course with a conceptual understanding of quantitative data analysis, as well as the ability to perform basic statistical computations. Finally, students will have experience presenting empirical research findings in a public forum.

### **REQUIRED READINGS: TEXTS**

Weisburd, David and Britt, Chester. 2007. Statistics in Criminal Justice. 3<sup>rd</sup> ed. Wadsworth.  
George and Mallery (2009). SPSS for Windows Step-by-Step: A Simple Guide and Reference. 10<sup>th</sup> ed. Pearson.

### **SUPPLEMENTAL READINGS/TEXTS:**

\*\*\* To be determined.\*\*\*

### **REQUIRED EQUIPMENT:**

Students are required to bring a basic, no-frills SCIENTIFIC CALCULATOR with them to class every day. Students will make extensive use of their calculator as they learn to compute single-variable (called “univariate”) and two-variable (called “bivariate”) statistics. Advanced graphing calculators are not necessary.

Students are also asked to bring a SEPARATE 3-RING BINDER to class every day. I recommend a 2-inch model. The binder should contain tab separators (one for each section of the course, perhaps one for each week), graph paper, and regular college-ruled paper. (I actually recommend purchasing a pad of engineer paper, which serves nicely as both graphing paper and standard writing paper.) By the end of the semester, this binder will be transformed into your own personalized statistics reference guide, so keep in mind you’ll get out of it exactly what you put into it (quite literally)!

Students are welcome to use whatever writing instrument (pencil, pen, marker, etc.) they prefer. (I recommend a mechanical pencil. I also recommend purchasing a big eraser.)

### **BLACKBOARD:**

This course will make extensive use of the Blackboard learning environment. All course communications will take place via Blackboard. I will post announcements, homework assignments, and grades on Blackboard. I will use Blackboard course mail to contact students individually. Every once in a while I will hold on-line office hours via Blackboard’s chat feature. Students will use course mail to contact me, and each other. Quite often, students will be required to submit homework via Blackboard. All this and much, much more will take place on Blackboard. It is each student’s responsibility to ensure they have access to Blackboard, and to familiarize themselves with its operation and functionality.

**Every student must maintain an active Blackboard account and check it regularly.** (I recommend checking Blackboard daily.) To log-in to your account, go to:  
<http://www.uaa.alaska.edu/classes/uaaclasses8.cfm>.

### **EVALUATION**

#### **Reading Assignments**

Reading for this course will largely be limited to the assigned textbook. However, additional supplemental readings may be assigned at the discretion of the instructor.

#### **Quizzes**

Quizzes will be a primary form of student evaluation in this course. Students can anticipate one quiz per week, on average. Typically, though not always, quizzes will be open-source (notes, book, etc.). Sometimes quizzes will be given in class, other times they will be posted on Blackboard. Sometimes quizzes will be announced, sometimes not. The number of quizzes is not pre-determined.

#### **Exams**

There will be three “standard” exams and one “final” (i.e. comprehensive) exam for this course. Exams will be interactive. Rather than simply memorizing and then regurgitating course material, students will be required to *demonstrate* their understanding of conceptual material and computational methods. The content and structure of particular exams will vary. Each exam will be worth 100 points. The final exam will be comprehensive, and worth 150 points. The dates for exams are not predetermined. Exams will be administered after determination by the instructor that course materials have been adequately covered and discussed, and students are sufficiently prepared to sit for the exam. Exams will be announced in class and on Blackboard at least one week prior to administration. Exams will be given during regularly scheduled class time, in the same room class meets. All exams are required.

#### **Writing/Homework Assignments**

Much to the chagrin of criminal justice students the world over, the only way to truly become proficient at quantitative data analysis is to do it, and do it frequently. Consequently, students will have frequent

homework assignments. And, because it is crucial that justices be able to effectively communicate their research findings, students will also have occasional (short) writing assignments. Typically, homework/writing assignments will be worth 10 points each. As with quizzes, the number of homework/writing assignments is not predetermined. Assignments will be made as needed to ensure students' mastery over course material.

#### Attendance

Attendance is strongly encouraged, but not required. Because I know students' primary focus is on grades, I am providing a modest incentive for attendance and participation beyond appealing to your desire to learn and fear of missing important material: each class period will be worth 1 point. I will take attendance randomly, giving each student the opportunity to earn points for doing nothing other than showing up for class.

#### Office Hours

I do not require students to attend office hours, but I strongly encourage each of you to take advantage of the opportunity. As a reward for your efforts, you will be given 5 extra-credit points for each office hours session you attend, up to three sessions. However, you cannot simply show up and receive credit. You must bring a thoughtful, contemplative course-related question and be prepared to discuss it. (maximum 15 points)

#### Assignment of Grades

Assignment of grades for this course will be according to an A-B-C-D-F scale; there are no "plus" (e.g. "A+") or "minus" (e.g. "A-") grades. Students will receive an "A" for earning 90 to 100 percent of the total points possible for the semester, a "B" for acquiring 80 to 89 percent of the total points possible for the semester, a "C" for accumulating 70 to 79 percent of the total points possible for the semester, a "D" for totaling 60 to 69 percent of the total points possible for the semester, and an "F" for earning less than 60 percent of the total points possible. Grade distributions for assignments and exams will not be "curved."

Consistent with UAA guidelines (see Chapter 7 of Catalog), an "A" represents an Honor grade, indicating comprehensive mastery of required work. A "B" indicates a high level of performance in meeting course requirements. A "C" indicates a satisfactory level of performance. A "D" represents the lowest passing grade. Finally, an "F" indicates failure.

#### INCOMPLETE GRADES

A grade of "I" (incomplete) is assigned only at the discretion of the instructor. Typically, awarding of the grade of "I" will be limited to extraordinary circumstances beyond a student's control (e.g. unavoidable absences). In all cases, students must demonstrate satisfactory progress in the majority of the work in the course prior to requesting a grade of "I". The *Incomplete Grade Contract* must be completed and filed with the Justice Center office prior to an "I" grade being assigned.

#### **COURSE POLICIES**

Each student should review the Code of Conduct (Chapter 5 of Catalog) for University policies regarding student rights and responsibilities. Please pay particular attention to the topics of cheating, plagiarism, and academic dishonesty.

#### Make-up Work

Arrangements for make-up work will be made only in those cases where the student has an absence approved by the University (for example: unexpected illness; religious holiday observance; official University activities).

Except in the case of emergencies, all make-up exams must be taken before the regularly scheduled exam administration. Make-up exams will not be given if a student could have made prior arrangements but failed to do so.

#### Students With Disabilities

It is the responsibility of students to inform the professor of any disabilities that require special accommodations. If a student requires special accommodations, arrangements must be made prior to the assigned due date for any coursework, particularly in the case of examinations. Disability Support Services coordinates academic support services for students who experience disabilities. If you require assistance, contact DSS at 786-4530 or 786-4536 (TTY).

## COURSE TOPIC SCHEDULE

### Tentative Course Schedule

Topic Number	Topic Description	Chapter/Reading
1	Introduction/Course Overview	Ch 1
2	Principles of measurement	Ch 2
3	Computing <i>frequencies</i> An introduction to the display of <i>univariate data</i> Simple <i>tables</i> and <i>charts</i> An introduction to the display of <i>bivariate data</i> (*time permitting*) <i>Time series</i> graphs	Ch 3
4	Exam #1	
5	Describing the <i>typical case</i> Determining the <i>mode</i> Locating the <i>median</i> Calculating the <i>mean</i>	Ch 4
6	How “typical” is the typical case? Measuring <i>dispersion</i>	Ch 5
7	The significance of <i>statistical significance</i> Making <i>generalizations</i> from <i>samples</i> to <i>populations</i> The logic of <i>hypothesis testing</i> Oops! Types of <i>error</i> ...	Ch 6
8	Exam #2	
9	Tests of statistical significance: the <i>binomial distribution</i>	Ch 7, Ch 8
10	Tests of statistical significance: the <i>chi-square distribution</i>	Ch 9
11	Tests of statistical significance: the <i>normal distribution</i>	Ch 10
12	Exam #3	
13	Comparing means and proportions: Two samples	Ch 11
14	Comparing means and proportions: Three or more samples	Ch 12
15	Measures of association	Ch 13, Ch 14

**NOTE:** This is a **topic syllabus**. Notice that there are no pre-determined dates listed for readings/assignments. That is not an omission; it is intentional. Progress through the course schedule will be determined by **student learning**, not arbitrary dates. Topics requiring more attention will receive it. Conversely, topics that students master quickly will permit accelerated progress through the schedule.

**REMINDER:** This course schedule is subject to change at the discretion of the instructor.