

CrM J / Pol S 504 Quantitative Methods: Spring 2007
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Description

http://www.spokane.wsu.edu/ACADEMIC/crim_j/criminal_justice_course_descriptions.asp

"CrM J 504—Quantitative Methods in Political Science and Criminal Justice (3 credits). Applied statistical skills to enable understanding of substantive political and social questions."

<http://catalog.wsu.edu/Catalog/Apps/Courses.ASP>

CrM J 504 "Quantitative Methods in Political Science and Criminal Justice 3 Prereq introductory statistics course. Same as Pol S 504."

Textbooks:

Required:

1. Bachman R. and Paternoster, R. (2005) *Statistics for Criminology and Criminal Justice*, Second Edition, McGraw-Hill. The edition in the bookstore contains a CD with an older version of SPSS.
2. Norusis, M. (2005) *SPSS 13.0 Guide to Data Analysis*, Prentice Hall Publishers.

Recommended:

1. Online statistics course: http://www.cmu.edu/oli/courses/enter_statistics.html
2. http://www.wadsworth.com/psychology_d/templates/student_resources/workshops/stats_wrk.html
3. On reserve in the library: Grimm, L.G. and Yarnold, P.R. Eds, *Reading and Understanding Multivariate Statistics*, American Psychological Assoc., 2004

The class web page is at www.blackboard.wsu.edu

Office Hours will be after class and by appointment. If desired, review sessions will be held on undergrad statistics during the first month.

Class Structure:

This class will not focus on the details of mathematical theory, but instead on how to use relevant data to extract useful information when there is uncertainty in the data. Most of the computations will be done using SPSS software. The necessary math background is covered in Appendix A. If a student is anxious about math, we can meet outside of class for reviews.

In general, the lecture topics will follow the order in Bachman and Paternoster. The pace will be faster at the beginning, and then basically be one chapter a week after that. Normally, the PowerPoint slides for the lecture will be available on Blackboard the prior Monday. The homework assignments will be discussed and reviewed in the next class. The answers are in the textbook, so the discussion will focus on the clarification, and also the possibility that some of those answers can be disputed, or expanded. The class discussion is part of the course evaluation. Following the discussion of the previous material, new material will be introduced. The use of external web links is highly desirable. Ask questions, and try to relate the concepts to your research interests during the class.

If you need help, it is important to ask for it right away. Suffering in silence is not productive.

Class time will also be used for SPSS exercises, and you are strongly encouraged to help each other. SPSS is a tool, and it is usually easier to learn in teams.

Cooperative homework is encouraged, provided that it results in each individual learning the material. Much of the test material will have similarities to the homework. Homework problems from the text have answers in

Appendix C. I do not individually grade homework for this reason, but instead use it as a basis for class discussion. The Blackboard website can support discussion groups. If these are beneficial, feel free to use them.

The only time cooperation is not allowable is during exams. At that point, it would be considered cheating, and a failing grade could result.

Grading:

There will be 3 exams, each counting 25% for a total of 75 %. There will be an in-class written portion of the exam, and a take-home portion that will involve computer usage. Exams must be done without help. Cheating on exams is punishable by a failing grade.

The class participation counts 25%, so missing class is not desirable. Please notify the instructor ahead of time if it is necessary to miss a class. Participation also includes the Blackboard discussion groups.

The use of outside references and the internet is highly desirable. Provide proper credit and citations, including help provided by other people. Use quote marks where appropriate, or other identification of quoted material.

Topics: (This list is somewhat flexible.)

1. Jan 10. Class introductions; Blackboard; discussion on variables and measurements Chapter 1 and 2: Purpose of statistics and Levels of measurement. Wadsworth links.
 2. Jan. 17. Introduction to SPSS. PowerPoint and SPSS demos for Ch. 3 and 4: Tabular and graphical displays; measures of central tendency and dispersion.
 3. Jan. 23. Chapter 6: Probability. Introduction to Hypothesis testing.
 4. Jan. 30. Chapter 7: Point estimation and confidence intervals.
 5. Feb. 7. Chapter 8: Hypothesis Testing for one Population Mean and Proportion
 6. EXAM
 7. Feb. 14. Chapter 9: Bivariate Hypothesis Testing with Categorical Data
 8. Feb. 28. Chapter 10: Bivariate Hypothesis tests for two Population Means or Proportions
 9. Mar. 7. Chapter 11: ANOVA: Multivariate Hypothesis Tests for three or more Population Means
- Spring Break
10. Mar. 21. Chapter 12: Bivariate Correlation and Regression.
 11. Mar. 28. EXAM
 12. Apr. 4. Chapter 13: Multiple Regression and Partial Correlation
 13. Apr. 11. More Multivariable Regression
 14. Apr. 18. Chapter 14: Logit and Probit Regression
 15. Apr. 25. Overview of non-parametric tests
 16. May 2. FINAL EXAM

Disability Resource Center

Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. Late notification may cause the requested accommodations to be unavailable. Accommodations are mediated through Joan Menzies of student services. http://www.spokane.wsu.edu/student-services/disability_resources.asp 358-7526, jmenzies@wsu.edu.

