Math 8452 – Nonparametric Statistics – Spring 2011

Instructor: Jesse Frey  
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Office Hours: 5:00 – 6:00 PM Monday and by appointment

Textbook: *Introduction to Modern Nonparametric Statistics*, by Higgins (ISBN: 0-534-38775-6). We will cover most of Chapters 1 to 10, and we may also discuss some additional topics. I will provide appropriate reading material for these additional topics.

Course topics: Nonparametric tests and confidence intervals for one-sample, two-sample, and multi-sample problems; Tests based on ranks; Permutation tests; Bootstrap tests; Nonparametric smoothing and regression; Nonparametric tests for trend and association; Nonparametric tests for designed experiments; Nonparametric tests for censored data; Comparisons between parametric and nonparametric tests

Course prerequisites: Statistical Methods I (Math 7404 or Math 4310)

Course webpage: Start at [www.homepage.villanova.edu/jesse.frey/](http://www.homepage.villanova.edu/jesse.frey/) and follow the link for Math 8452. Assignments and homework solutions will be posted on this page.

Grading: Your grade will be determined by your homework average (25%), your score on a test given near the middle of the course (25%), your score on a test given near the end (25%), and your grade on the course project (25%). Grades will be assigned either according to the following scale or according to one more favorable to you:

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<tr>
<th>Grade</th>
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<tr>
<td>A</td>
<td>92-100</td>
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<td>A-</td>
<td>89-91</td>
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<td>B</td>
<td>82-85</td>
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<td>B-</td>
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<td>C</td>
<td>76-78</td>
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<td>C+</td>
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<td>F</td>
<td>&lt; 70</td>
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Computing: We will use Minitab and SAS for our computing needs. Each of these is available through the university via [www.citrixweb.villanova.edu](http://www.citrixweb.villanova.edu).

Homework: Homework will be assigned and collected on a weekly basis. You are encouraged to consult with others in the class, but you must submit your own solutions. Assignments should be written up neatly, and multiple-page submissions should be stapled. Typically, you must show your work to receive full credit. Homework assignments will be due at an announced class time, and late assignments will not be accepted without prior arrangements. If you know you will be absent on a day when an assignment is due, please talk with me to arrange an alternate submission plan.

Tentative Dates for Tests: February 21 and April 11. You will be allowed to bring a formula sheet to use during each of these tests, and I’ll provide essential tables.
Course Project: Part of your grade in the course will be based on a project that you complete during the semester, write up as a paper, and present to the class in a talk near the end of the semester. The project must be your own work, and it may be either theoretical or data-based. More details on the project will be given soon.

Other Important Dates:
January 17 (Martin Luther King Day) – No class.
February 28 (Spring Break) – No class.
April 25 (Easter Break) – No class.
May 2 – Our final exam period (to be used for project talks).

Academic Integrity: All work that you submit must be your own. Violations of the University Code of Academic Integrity will be addressed in accordance with the university-wide procedure.

Students with disabilities: Appropriate accommodations will be made for individuals with disabilities. Before I can make these accommodations, however, you must contact the Office of Learning Support Services at (610) 519-5636. It is a good idea to do this early in the semester.

Make-up Tests: Make-up tests will be given only in the case of an excused absence. If you have an excused absence, you should contact me as soon as you are able.

Attendance: Attendance is essential if you wish to do well in this course, and you are expected to attend each class meeting. If you do miss a class, it is your responsibility to find out what was covered and what was assigned. The course website can help with this.