Math 8454 – Sampling Methods – Fall 2011

Instructor: Jesse Frey

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Office Hours:  5 – 6 PM Wednesday and by appointment

Textbook:  *Sampling: Design and Analysis,* 2nd edition, by Lohr (ISBN: 0-495-10527-9). We will cover most of Chapters 1 to 13. We may also touch upon some topics that are not in the book. I will provide appropriate reading material for these additional topics.

Course topics: Basic sampling theory, simple random sampling, stratified sampling, cluster sampling, systematic sampling, ratio and regression estimation, randomized response, capture/recapture, methods for dealing with non-response, and other topics.

Course prerequisites:  Statistical Methods I and II (Math 7404 and 7405)

Course webpage: Follow the link at www.homepage.villanova.edu/jesse.frey/.

Grading:  Your grade will be determined on the basis of your homework average (30%), your score on a midterm test (25%), your score on the final exam (25%), and your score on the course project (20%). 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>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>92-100</td>
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<tr>
<td>A-</td>
<td>89-91</td>
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<tr>
<td>B+</td>
<td>86-88</td>
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<tr>
<td>B</td>
<td>82-85</td>
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<tr>
<td>C+</td>
<td>76-78</td>
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<td>C</td>
<td>70-75</td>
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<td>F</td>
<td>&lt; 70</td>
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Computing:  We will use SAS and R. SAS is available through the university at www.citrixweb.villanova.edu, and R is freely available at www.r-project.org.

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 that you will be absent on a day when homework is due, talk with me to arrange an alternate submission plan.

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.
**Tentative Date for Midterm:** October 19. You will be allowed to bring a sheet of notes or formulas both to the midterm and to the final exam.

**Other Important Dates:**
October 12 (Fall Break) – No class.
November 23 (Thanksgiving Break) – No class.
December 14 – Final Exam.

**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.