

## **STAT 474 : Statistical Methods & Model II (Fall 2013)**

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Office Hours: MWF 10:50 – 11:50 am

**Text:** 1. *Applied Regression Analysis and Other Multivariable Methods* By Kleinbaum, Kupper Nizam and Muller (4<sup>th</sup> Edition)  
2. *An Introduction to Categorical Data Analysis* By Agresti (2nd Edition)

### **Breakup of Points:**

|                                 | <u>Total Worth</u> |
|---------------------------------|--------------------|
| Assignments / Quizzes/ Projects | 100 points         |
| Midterm Exam                    | 100 points         |
| Final                           | 200 points         |
| Total                           | 400 points         |

### **Tentative Schedule:**

- Homework every week. Due in a week. No credit will be given to late submissions.
- Midterm on 8<sup>th</sup> week
- Comprehensive Final

### **Tentative Grading Scale:**

- 95% and up → A, 90% - 94% → A-
- 87% - 89% → B+, 84% - 86% → B, 80% - 83% → B-
- 75% - 79% → C+, 70% - 74% → C
- 60% - 69% → D
- Below 60% → F

The actual grading scale will be determined after the final exam. The final grading scale can be lower, but will not be higher, than the above tentative scale.

- The schedule and the grading scale may be changed at any time. If any change is made, it will be announced in class.
- Please try to attend lectures regularly. You will be responsible for materials covered in missed lectures.
- Only documented medical emergencies will be grounds for make-up exams. All arrangements must be made within 5 days of the missed examination.

Please feel free to talk to me after class or come to my office hours. If you are falling behind, or getting lost, consult me immediately.

**Schedule:**

| WEEK  | CHAPTER     | TOPIC   |
|---|-------------|---|
| <b>Applied Regression Analysis and Other Multivariable Methods:</b> |             |   |
| 1   | 17.1 – 17.4 | ANOVA – One-Way Analysis of Variance                    |
| 2   | 17.4 – 17.7 | ANOVA – One-Way Analysis of Variance                    |
| 3   | 17.7 – 17.9 | ANOVA – One-Way Analysis of Variance                    |
| 4   | 19.1 – 19.3 | Two-Way Analysis of Variance                            |
| 5   | 19.4 – 19.6 | Two-Way Analysis of Variance                            |
| 6   | 19.6 – 19.7 | Two-Way Analysis of Variance                            |
| 7   | 18          | Randomized Block Designs                                |
| 8   | 13          | Analysis of Covariance (ANCOVA)                         |
| <b>Categorical Data Analysis:</b>                                   |             |   |
| 9   | 1           | Introduction to Statistical Inference for Discrete Data |
| 10  | 2           | Two-way Contingency Tables                              |
| 11  | 2           | Two-Way Contingency Tables (continued)                  |
| 12  | 3           | Generalized Linear Models                               |
| 13  | 4           | Logistic Regression                                     |
| 14  | 4 - 5       | Logistic Regression                                     |
| 15  | 7           | Log-linear Models for Contingency Tables                |

**Learning outcomes for the course are:**

1. Capacity to formulate problems within a statistical framework
2. Essential skills for statistical analysis
3. Knowledge of data-analysis methods
4. Practical working knowledge of computer programming and of popular statistical software
5. Effective written communication skills for statistical analysis

**• Accessibility Statement**

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- Please see NIU's policies on Academic Integrity, Attendance, and Accommodations for Students with Disabilities at [http://www.niu.edu/stat/courses/pdfs/Accessibility\\_statement.pdf](http://www.niu.edu/stat/courses/pdfs/Accessibility_statement.pdf). These policies will be followed in this course.