MAT 22 Introduction to Statistics

<table>
<thead>
<tr>
<th>Instructor Name</th>
<th>Erik van Erp</th>
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<tbody>
<tr>
<td>Home Institution</td>
<td>Dartmouth College</td>
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**Course Hours**

The course has 20 lectures and 8 seminars/exercise classes in total. Each class session is 120 minutes in length. The course meets from Monday to Friday. Each course has a total of 56 class hours (4 credit hours).

**Required Materials**

Statistics, 4th edition by David Freedman, Robert Pisani, Roger Purves

**Course Topics**

The course focuses on the following topics in statistical methods:

- Controlled experiments
- Observational data
- The histogram
- The average and the standard deviation
- Normal approximation for data
- Correlation
- Regression
- R.M.S. error for regression
- Regression line
- Chances
- Binomial formula
- The law of averages
- Expected value and standard error
- Normal approximation for probability histograms
- Sample surveys
- Chance errors in sampling
- Accuracy of percentages
- Accuracy of averages
- Model of measurement error
- Tests of significance and more tests for averages
- Chi-square test
- Closer look at tests of significance
Schedule of Lectures, Reading Assignments and Exams

<table>
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<tr>
<th>Mon</th>
<th>Period1</th>
<th>Period2</th>
<th>July 15-July 19</th>
<th>July 22-July 26</th>
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<td>Fri</td>
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<td>Period2</td>
<td>Review/Catch up</td>
<td>Midterm</td>
<td>Review/Catch up</td>
<td>Final Exam</td>
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<td>Quiz 1</td>
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<td>Final Exam</td>
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Statistics Computer Program

Students are to choose one of the statistics computer programs Excel or R.

Grading

Grades will be based on class participation and attendance, homework assignments, midterm exam, two quizzes and a final exam according to the following percentages:

- Class participation and attendance: 5%
- Two quizzes: 20%
- Midterm: 25%
- Homework: 15%
- Final Exam: 35%
Code of Academic Integrity

You must familiarize yourself with the Code of Academic Integrity in the Beijing Jiaotong University. It is your responsibility to ensure your behavior does not violate this code. You must observe the policies regarding various forms of academic dishonesty. The following statement about academic dishonesty has been provided by the Beijing Jiaotong University, “Activities that have the effect or intention of interfering with education, pursuit of knowledge, or fair evaluation of a student’s performance are prohibited.” Academic dishonesty will not be tolerated and may be handled by the Office of Student Conduct.