SYLLABUS

Course Number, Section, Title: Math 350-01 Statistical Methods II
Semester: Spring 2018
Professor: Bo Kai                 Phone: (843) 953-8017
Email: KaiB@cofc.edu             Office: 350 Robert Scott Small Building

Course Meeting Time and Location: TR 1:40-2:55 pm, BELL SOUTH 309
Office Hours: TR 12:30-1:30 pm or by appointment.


Prerequisites: Math 120 (Introductory Calculus) and Math 250 (Statistical Methods I).

Course Webpage: [http://kaib.people.cofc.edu/teaching/math350.htm](http://kaib.people.cofc.edu/teaching/math350.htm)

OAKS: To post grades, lecture slides, solutions, study guides, etc.

Calculator: A TI-83 or TI-84 is **REQUIRED** for calculations in tests.

Software: A statistical software package, Minitab, will be used **INTENSIVELY** in this course to help organize, summarize and analyze data. **Minitab is available on most campus computers.** Personal copies can be obtained via **30-day free trial** or **6-month rental** (for $29.99 @ [http://www.onthehub.com/minitab/](http://www.onthehub.com/minitab/)). The version used in this course is Minitab 18 for PC, **NOT** Minitab Express for Mac/PC (because Express is a light version and some features are missing).

Course Description: The topics to be covered include inferences for standard deviations, simple linear regression and correlation, multiple regression, model building and selection, analysis of variance (ANOVA), two-way ANOVA, and chi-square test. Logistic regression and other selected topics will be introduced as time permits. Minitab will be used to perform various statistical analyses. Students enrolling for this course should have the knowledge of descriptive statistics, probability distributions, confidence interval estimation and hypothesis tests.

Course Objectives: This course is intended to introduce various popular and practically useful statistical methods that focused on “hands on” data analysis. The students are expected to understand and conduct statistical modeling by choosing appropriate procedures, and to interpret the results and draw conclusions within the context of the problem. Besides the understanding of all methods, the course features the use of the statistical software package, Minitab, to provide students the ability to handle and analyze large real data.

Course Student Learning Outcomes: Upon successful completion of this course, students will be able to:

1. Understand and conduct statistical modeling by using appropriate procedures.
2. Understand the capabilities and limitations of statistical methods.
3. Use appropriate technology, such as Minitab, to perform various statistical procedures.
4. Interpret results and draw conclusions from statistical analyses.
**Undergraduate Math Program Student Learning Outcomes:** Students are expected to display a thorough understanding of the topics covered. In particular, upon completion of the course, students will be able to

1. use algebra, geometry, calculus and other track-appropriate sub-disciplines of mathematics to model phenomena in mathematical terms,
2. use algebra, geometry, calculus and other track-appropriate sub-disciplines of mathematics to derive correct answers to challenging questions by applying the models from the previous Learning Outcome, and
3. write complete, grammatically and logically correct arguments to prove their conclusions.

These outcomes will be assessed on the final exam.

**Grading Policy:** Your overall grade will be calculated according to the following formula:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>12%</td>
<td>(2% for each one)</td>
</tr>
<tr>
<td>Lab Activities</td>
<td>12%</td>
<td>(2% for each one)</td>
</tr>
<tr>
<td>Tests (2)</td>
<td>46%</td>
<td>(23% for each one)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
<td>(Comprehensive)</td>
</tr>
<tr>
<td>Project</td>
<td>5%</td>
<td>(Extra credit work, 5 bonus points)</td>
</tr>
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The lower cut-off points for your letter grades are:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Lower Cut-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>&lt;60</td>
</tr>
<tr>
<td>D-</td>
<td>60-63</td>
</tr>
<tr>
<td>D</td>
<td>63-67</td>
</tr>
<tr>
<td>D+</td>
<td>67-70</td>
</tr>
<tr>
<td>C-</td>
<td>70-73</td>
</tr>
<tr>
<td>C</td>
<td>73-77</td>
</tr>
<tr>
<td>C+</td>
<td>77-80</td>
</tr>
<tr>
<td>B-</td>
<td>80-83</td>
</tr>
<tr>
<td>B</td>
<td>83-87</td>
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<tr>
<td>B+</td>
<td>87-90</td>
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<tr>
<td>A-</td>
<td>90-93</td>
</tr>
<tr>
<td>A</td>
<td>&gt;93</td>
</tr>
</tbody>
</table>

**Course Policies:**

1. **Extra Credit:** There are various extra credit opportunities in this course, such as the project, class activities, bonus assignments, etc. You earn bonus points in those opportunities. A *bonus point* is defined as a point to be added to your overall grade. Extra credit opportunities are used to boost your grade, not to salvage your grade.

2. **Homework:** Homework will be assigned after each lecture but collected biweekly.
   - Homework will be checked for only completeness and quality.
   - Answers to odd-numbered problems are included in your textbook.
   - Detailed solutions will be posted online after each collection.
   - **It is your responsibility to check your homework answers against the solutions.**

3. **Homework and Lab Grading:**
   - ‘S+’: means completed with high quality. If you get 4 or more (out of 6) ‘S+’ in the semester, you’ll earn a *bonus point*.
   - ‘S’: means satisfactory. You receive the full credit.
   - ‘S–’: means unsatisfactory, due to poor quality / lack of necessary work / incomplete / late / etc. You only receive half of the credit.

4. **In general, no make-up tests will be given.** However, in the rare case of serious illness, injury, death in the family, or with the approval of the instructor, tests may be rescheduled, or the missed points may be moved to other other tests.
5. **Attendance Policy:** Attendance is generally required and expected. In the event of absences:

- **Excused absence:** NO penalty if a student misses a class with a legitimate, documentable reason. The student needs to bring documentation to the Absence Memo Office located at 67 George Street to ask for an Absence Memo sent to me. Visit [http://studentaffairs.cofc.edu/about/services/absence.php](http://studentaffairs.cofc.edu/about/services/absence.php) for more information.

- **Unexcused absence:** NO penalty if your overall letter grade is an ‘A’ or an ‘A-’. 
  - **Otherwise:**
    - NO penalty for the first 3 unexcused absences.
    - Starting from the 4th unexcused absence, **5 points/absence** will be deducted from your overall grade.
    - A grade of “WA” (Withdrawal for Excessive Absences) will be assigned if you have 7 or more unexcused absences.

6. **Honor Code and Academic Integrity:**

- Lying, cheating, plagiarism, and attempted cheating are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

- Incidents, where the instructor determines the student’s actions are related more to a misunderstanding, will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

- Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive an XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

- Students should be aware that unauthorized collaboration--working together without permission--is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance.

- Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

- Students can find the complete Honor Code and all related processes in the Student Handbook at [http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php](http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php)
7. **Students with Disabilities:** The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP, located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying the Instructor as soon as possible and for contacting the Instructor at least one week before any accommodation is needed.