STAT 473A & 573A: Statistical Methods & Model I - 0001 Spring 2014

1.0 credit hours

Instructor: Devrim Bilgili, Ph.D

Course Time: W 2:15 PM-3:15 PM

Course Location: Class will meet in DuSable 252 - the first two weeks of the semester. The rest of the class will meet in Wirtz computer lab

Office: DU 361C Phone: 753-6829 e-mail: dbilgili@niu.edu

Office Hours: M, W, F 11.00am -12.-00pm or by appointment

Textbook:

Course Notes.

A Handbook of Statistical Analyses using SAS, 3rd Edition by Der and Everitt. (as reference)


References:

Applied Regression Analysis and Other Multivariable Methods, 5th edition by Kleinbaum, Kupper, Nizam and Muller


http://support.sas.com/documentation/93/index.html

http://v8doc.sas.com/sashtml/

http://support.sas.com/linedoc/912/docMainpage.jsp

STAT 473A/573A COURSE DESCRIPTION:

Introduction to statistical computing with the aid of software packages. Data entry, transformations, simple plots, summary statistics, and statistical procedures.
Prerequisites & Notes: PRQ: MATH 211 and STAT 301, or STAT 350, or consent of division. CRQ: STAT 473/573 or consent of division.

**STAT 473A/573A LEARNING OUTCOMES:**

- Importing external files, subsetting and merging data files.
- Performing statistical procedures, graphics.
- Simple inference using SAS.
- Simple linear and multiple regression.
- Practical working knowledge of computer programming and of popular statistical software
- Experience with a wide variety of statistical problems arising in real world application

**TOPICS:** Chapter 1-3, Chapter 6-7

**STUDENT ASSESSMENT:**

4 Assignments (worth 100 points for undergraduate and 120 points for graduate). There will be some extra problems on some homework required for graduate students.

Midterm Exam on February 25 (worth 100 points) for an undergraduate student and (worth 120 points for graduate student)

Final Exam consists of a project, its presentation and the final written report on the project is due on Monday, May 4, 4pm. (worth 100 points) for an undergraduate student and (worth 110 points) for graduate student.

EVERYONE should attend the presentation. There is no make-up. If you miss the presentation, you will get zero for the final.

**Tentative grading scale (graduate):**

<table>
<thead>
<tr>
<th></th>
<th>percent</th>
<th>Total</th>
<th>HW</th>
<th>Midterm Ex</th>
<th>Final Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect</td>
<td>100</td>
<td>350</td>
<td>120</td>
<td>120</td>
<td>110</td>
</tr>
<tr>
<td>A</td>
<td>88</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>86</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>83</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>78</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>76</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>73</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>68</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>66</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
undergraduate:

<table>
<thead>
<tr>
<th></th>
<th>percent</th>
<th>Total</th>
<th>HW</th>
<th>Midterm Ex</th>
<th>Final project</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect</td>
<td>100</td>
<td>300</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>A</td>
<td>90</td>
<td>270</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>88</td>
<td>264</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>85</td>
<td>255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>80</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>78</td>
<td>234</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>75</td>
<td>225</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>68</td>
<td>204</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>60</td>
<td>180</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

Exams

The midterm exam will be given during regular class time.

Make-up exams will only be given when a student has a planned, documentable, and excusable absence on a test date and personally negotiates the make-up in advance. For sudden, documentable, and excusable absences (illness, death, etc), the points from the missed exam will be added to the final exam. Unexcused absences (oversleeping, forgetting, etc) will result in a score of zero.
Homework

Homework's will due in a week. No credit will be given to late submissions.

You are required to submit your homework at the beginning of the class.

The homework will be assigned electronically, and you need to turn in the homework through BLACKBOARD. Electronic submission is required, no hard copy is accepted. Annotate your output, either with a word processor or pdf, so I can determine that you have accomplished the goals of the assignment.

Scanned copies with hand-writing are not accepted. You are to show all your work. If your assignments are messy, disorganized or do not follow the stated instructions, they will be returned and you will not receive credit for the assignments.

Students are allowed to discuss homework assignments, but you should not look at another student's work.

Each student must write his/her solutions in their own way, using their own words.

Please note that because of the quick pace of this course it is unlikely that all of your homework will be graded and returned to you before the exam. You may want to make copies of your homework before turning them in.

ACCESSIBILITY:

If you have a disability, please make arrangements with the Disability Resource Center (DRC) early in the semester, and let me know. See http://www.math.niu.edu/courses/CAAR.html for details.

Northern Illinois University is committed to providing an accessible educational environment in collaboration with the Disability Resource Center (DRC). Any student requiring an academic accommodation due to a disability should let his or her faculty member know as soon as possible. Students who need academic accommodations based on the impact of a disability will be encouraged to contact the DRC if they have not done so already. The DRC is located on the 4th floor of the Health Services Building, and can be reached at

815-753-1303 (V) or drc@niu.edu.
NIU's updated policies on Academic Integrity, Attendance and Accommodations for Students with Disabilities are now available at: http://www.niu.edu/stat/courses/pdfs/Accessibility_Statement.pdf.

ACADEMIC INTEGRITY STATEMENT:

The Statement of Academic Integrity in the Undergraduate catalog will be strictly enforced with regard to homework assignments, quizzes, and exams.

Please see:

http://www.niu.edu/stat/courses/pdfs/Accessibility_statement.pdf

for policies on academic integrity, attendance and accommodations for students with disabilities.

GUIDELINES AND GENERAL INFORMATION:

You are encouraged to ask questions and to participate in class discussions, however talking in class while the instructor is lecturing is highly frowned upon.

Cell phones are to be muted or turned off during lectures, recitations and visits to office hours and kept away during exams. Violations will be considered as class disruptions, or worse, and will be treated accordingly.

Texting during class is not allowed. If you are caught, your phone will be confiscated for the remained of the class period. If you are caught texting a second time, you will be asked to leave the class for that day.

It is your responsibility to be sure that your work is turned in and that you receive the notes and announcements. Missing an announcement will not be accepted as a valid excuse for missing an event (exam, quiz etc.). If you frequently miss class the instructor reserves the right to deny office hour privileges to you.

Late arrivals and early departures from class are strongly discouraged, except in cases of emergency.

Students are to remain for the entire session unless excused by the instructor beforehand or confronted with a serious personal emergency. For instance, it is not acceptable for students to walk in and out of class to answer cell phones, take casual bathroom and smoking breaks, or attend to other personal matters.
It is not acceptable to use an iPod, read a newspaper, use a laptop/ipad for anything other than taking class notes, study for other classes, or engage in other behavior that distracts one from the class proceedings once the session has started.

The syllabus may be changed at any time. Changes will be announced in lecture.

Suggestions

DO NOT WAIT UNTIL THE LAST MINUTES.

To do well in this course, you should attend class regularly.

Please try to keep up with the class. If you fall behind, then you will have to work much harder to catch up.

Please feel free to talk to your instructor. If you are falling behind or getting lost, then do not wait; act on it as soon as possible. Get help, spend more time studying, form study groups, go to your instructor’s office hours - do whatever works for you.

OTHER USEFUL RESOURCES:

You may get some other useful resources through http://www.niu.edu/stat/courses/index.shtml

IMPORTANT DATES:

May 4, Monday, 4 p.m. Final Project Due
Tentative Schedule

Week of Sections Covered Assignments

Week 1  Introduction, Entering data into SAS
Week 2  Introduction, Exploring data into SAS
Week 3  Introduction; Assignment 1
Week 4  Read Data into SAS
Week 5  Read Data into SAS; Assignment 2
Week 6  Work with your Data
Week 7  Midterm Exam
Week 8  Work with your Data; Assignment 3
Week 9  Functions and Data Modification
Week 10 Functions and Data Modification
Week 11 Functions and Data Modification; Assignment 4
Week 12 Summary and Output
Week 13 Summary and Output
Week 14 Graphics and Statistical Procedures; Working on Project
Week 15 Graphics and Statistical Procedures; Working on Project
Week 16 Graphics and Statistical Procedures; Working on Project