OAKLAND UNIVERSITY
DEPARTMENT OF MATHEMATICS AND STATISTICS
STUDENT INFORMATION SHEET AND SYLLABUS

SEMESTER: Winter 2018

COURSE: STA 4003/5003: Applied Linear Models II   4 Credits

CLASS TIME AND ROOM: MW 5:30 -7:17 PM   Room 270 SFH

COURSE WEBSITE: Materials will be posted on Moodle.

FACULTY: Dorin Drignei   Office: 367 MSC
                    Phone: 248-370-3425   Email: drignei@oakland.edu

OFFICE HOURS: MW 4-5pm or by appointment.

PREREQUISITES (For STA 4003): (STA 402 or STA 4002) with a grade of 2.0 or
higher, or permission of instructor.
PREREQUISITE (For STA 5003):   Student must meet prerequisite (STA 502 or STA
5002).

CATALOG DESCRIPTION: Multi-way ANOVA, randomized block and Latin square
designs, incomplete blocks, factorial and fractional factorial designs, random and mixed-
effects models, response surface methods, introduction to generalized linear models.

COURSE OBJECTIVES:
The primary goal of this course is to introduce the basic concepts of experimental designs
in the context of linear models, and their application to real life problems.

TEXT: **Applied Linear Statistical Models** (5th Ed.) by Michael Kutner, Christopher
Nachtsheim, John Neter and William Li, published by McGraw-Hill Irwin (2005).

CALCULATOR POLICY: You can use a calculator. To receive full credit, please be sure
to show all necessary work.

SOFTWARE USAGE AND COMPUTER LAB: Statistical software will be used.

GRADING: Your grade will be determined from a number of homework assignments,
which may include both theoretical and computational problems. These homework
assignments may require a substantial amount of your time, so please start as soon as they
are assigned.

EMERGENCY CLOSING: If the University is closed at the time of a scheduled test or
exam, the exam will be given during the next class period when the University reopens.
The Oakland University emergency closing number is 248-370-2000.

GRADING POLICY**:** Your grade in the course will be based on the total points you have earned. According to the departmental guideline of grades: 95 -> 4.0; 80 -> 3.0; 65 -> 2.0; 50 -> 1.0.

MAKE-UP POLICY: There will be no make-up homework. You are expected to turn it in by the due date.

ACADEMIC HONESTY: Cheating is a serious academic crime. Oakland University policy requires that all suspected instances of cheating be reported to the Academic Conduct Committee for adjudication. Anyone found guilty of cheating in the course will receive a course grade 0.0, in additional to any penalty assigned by the academic Conduct Committee. **Working with others on homework assignments does not constitute cheating; handing in an assignment that has essentially been copied from someone else does.** Receiving help from someone else or from unauthorized written materials during tests is cheating, so is using a calculator as an electronic "crib sheet".

IMPORTANT DATES:
     Jan 3. Classes begin
     Jan 17. Last day of 100% tuition refund; last day "no-grade" drop
     Apr 17. Classes end

STA 4003/5003 TENTATIVE SYLLABUS
(Subject to change)

Chapter and Topic
Chapter 14: Logistic Regression, Generalized Linear Models
Chapters 15-18: Single-factor Studies (selected topics)
Chapters 19-20: Two-factor Studies
Chapter 21: Randomized Complete Block Designs
Chapter 24: Multi-factor Studies
Chapter 25: Random and Mixed Effects Models
Chapter 28: Balanced Incomplete Block and Latin Square Designs
Chapter 29: Two-Level Factorial and Fractional Factorial Designs
Chapter 30: Response Surface Methodology