

**SYLLABUS: STATISTICAL MODELING
(BANA 7042)
CARL H. LINDNER COLLEGE OF BUSINESS
SPRING 2018 (01/08-02/25/2018)**

Course Information

Meeting Time: M | W 10:10AM-12:00PM (Sec. 001) and Wed 6-9:50PM (Sec.002)
Classroom: Lindner 111 (Sec. 001) or Lindner 220 (Sec. 002), West Campus
Credit Hours: 2

Instructor Information

Dr. Dungang Liu, Assistant Professor of Business Analytics
Email: dungang.liu@uc.edu
Office: 514 Carl H. Lindner Hall
Office Hours: Monday 3:30-4:30PM

TA: TBD

Course Materials

Provided:

Class notes will be posted on BlackBoard after each meeting.

Optional (but recommended):

Julian J. Faraway. *Extending the Linear Model with R – Generalized Linear, Mixed Effects and Nonparametric Regression Models*, Second Edition, CRC Press

Michael Friendly and David Meyer. *Discrete Data Analysis with R – Visualization and Modeling Techniques for Categorical and Count Data*, CRC Press

Course Description

This course extends the modeling ideas and concepts used in linear regression to generalized linear regression models. We will show how to establish statistical models for binary data, binomial data, ordinal data, multinomial data, and count data. The emphasis will be placed on data interpretation, modeling ideas, numerical implementation, and result communication. A variety of real data sets will be provided and the computing program R will be used to gain hands-on experience.

Course Policies

1. **Academic Integrity:** As with all Lindner College of Business efforts, this course will uphold the highest ethical standards, critical to building character. Ensuing your integrity is vital and your responsibility. LCB instructors are required to report ANY incident of academic misconduct (e.g., cheating, plagiarism) to the college review process, which could result in severe consequences, including potential dismissal from the college. For further information on Academic Misconduct or related university policies and procedures, please see the UC Code of Conduct (http://www.uc.edu/conduct/Code_of_Conduct.html).

“TWO STRIKES POLICY”

All academic programs at the Lindner College of Business apply a “Two Strikes Policy” regarding Academic Integrity. **Any student who has been found responsible for two cases of academic misconduct may be dismissed from the College.** The “Two Strikes Policy” supplements the UC Student Code of Conduct.

All cases of academic misconduct (e.g., cheating, plagiarism, falsification) will be formally reported by faculty. Students will be afforded due process for allegations, as outlined in the policy. If a student is found guilty of academic misconduct in two instances, the student may be dismissed from the Lindner College of Business.

The “Two Strikes Policy” is now **in effect**.

2. **Attendance:** Attendance and participation in class is critical to understanding the material. I will be covering material not in the book and class notes are important for these topics. Please arrive on time and be prepared to participate in the in-class programming practice.

3. **Use of electronic devices:** Cell phones should be switched off during classes. Laptops should be used only for programming practice. Any form of entertainment (online chatting, watching videos and the like) is prohibited. Violations will result in dismissal from the class.

4. **Disability:** Students with disabilities who need academic accommodations or other specialized services while attending the University of Cincinnati will receive reasonable accommodations to meet their individual needs as well as advocacy assistance on disability-related issues. Students requiring special accommodation must register with the Disability Services Office. <http://www.uc.edu/sas/disability>

5. **Grade appeals:** If you think the grade of your work (homework, mid-term/final exams or projects) is miscalculated, you have the right to appeal. The appeal must be done (through email) **within 7 calendar days** since the grade is released/posted. After that, your grade is final and will not be changed.

6. **Weather Related Policy:** In case classes are cancelled due to the University closure, we will consider making the final exam take-home or/and uploading teaching videos and assigning reading materials. The University weather related policy can be found at <http://www.uc.edu/provost/faculty/resources/weather-related-policy-and-protocols.html>

Grading Policies

Grading will be based on

- Homework
- Projects
 - You will complete one or two projects, depending the progress of our class. The projects are to analyze simulated or real data simulated. Each student is expected to perform data manipulation, cleaning, summary, visualization, analysis and reporting on **individual** basis.

Tentative Schedules

	Topics	Reading Materials
Week 1 (01/08)	A Review of Linear Regression Models	Chapters 1*
Week 2 (01/15)	Introduction to CRISP-DM and R programming	
Week 3 (01/22)	Logistic Regression I	Chapter 2*
Week 4 (01/29)	Logistic Regression II	Chapter 3-4*
Week 5 (02/05)	Count Regression	Chapter 5*
Week 6 (02/12)	Multinomial Regression	Chapter 7*
Week 7 (02/19)	GLM and some specific models	Chapters 8-9*

* Julian J. Faraway. *Extending the Linear Model with R – Generalized Linear, Mixed Effects and Nonparametric Regression Models*, Second Edition, CRC Press

Miscellaneous

Counseling Services, Clifton Campus: Students have access to counseling and mental health care through the University Health Services (UHS), which can provide both psychotherapy and psychiatric services. In addition, Counseling and Psychological Services (CAPS) can provide professional counseling upon request; students may receive five free counseling sessions through CAPS without insurance. Students are encouraged to seek assistance for anxiety, depression, trauma/assault, adjustment to college life, interpersonal/relational difficulty, sexuality, family conflict, grief and loss, disordered eating and body image, alcohol and substance abuse, anger management, identity development and issues related to diversity, concerns associated with sexual orientation and spirituality concerns, as well as any other issue of concerns. After hours, students

may call UHS at 513-556-2564 or CAPS Cares at 513-556-0648. For urgent physician consultation after-hours students may call 513-584-7777.

Title IX: Title IX is a federal civil rights law that prohibits discrimination on the basis of your actual or perceived sex, gender, gender identity, gender expression, or sexual orientation. Title IX also covers sexual violence, dating or domestic violence, and stalking. If you disclose a Title IX issue to me, I am required forward that information to the Title IX Office. They will follow up with you about how the University can take steps to address the impact on you and the community and make you aware of your rights and resources. Their priority is to make sure you are safe and successful here. You are not required to talk with the Title IX Office. If you would like to make a report of sex or gender-based discrimination, harassment or violence, or if you would like to know more about your rights and resources on campus, you can consult the website www.uc.edu/titleix or contact the office at 556-3349.

The end.