

COURSE SYLLABUS: BUAL 5600/6600/6606

Predictive Modeling I

Class Meetings: T/Th, 12:30-1:45 p.m. Lowder 021

Professor: Dr. L. Allison Jones-Farmer
420 Lowder Business Building
(334) 844-6513
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Office Hours: T/Th 11:00 a.m.- 12:00 p.m.
T/Th 2:00 p.m.-3:00 p.m.

Prerequisites: MNGT 2600, 3600, or equivalent.

Required Course Materials:

1. *Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking* by Foster Provost & Tom Fawcett. ISBN978-1-449-36132
2. Additional reading materials will be made available through the course Canvas site
3. Lecture notes. These are available for download via the link from the course Canvas site

5600 Undergraduate Objectives:

- To understand and apply predictive modeling techniques to *structured data* in business. The modeling techniques will include
 - Supervised learning methods such as tree-structured models, regression models, logistic regression models, and neural networks.
 - Unsupervised learning methods such as nearest neighbor methods, and clustering methods
- Understand the importance of validating model assumptions in business applications.
- Understand how to evaluate the quality or “goodness” of a model in a business setting.
- Learning how and when predictive modeling may be useful in a business setting including:
 - Framing business scenarios within a modeling context.
 - Fitting and validating models while balancing both practical business guidelines and statistical soundness of the analysis.
 - Accurately and clearly interpreting the results of models to a business audience.

6600 Additional Graduate Objectives:

- In addition to the objectives for BUAL 5600 students, graduate students will learn to link the model results to strategic decision making in business.

REQUIREMENTS AND GRADING

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| Exam 1..... | 20% |
| Exam 2..... | 20% |
| Exam 3..... | 20% |
| Final Exam..... | 20% |
| Data Analysis Projects (approx 6)..... | 20% |

Exams: Three in-class exams and one comprehensive final exam will be given during the semester. Exams will cover material in the assigned readings, homework, lecture and lecture slides. **Please refer to the calendar for exam dates.**

Make up exams: In the event that a student misses an exam and provides a University approved excuse in accordance with the following guidelines, the student will be given the opportunity to makeup the missed exam. Lack of preparation for an exam is not a valid excuse and students should not be tempted to "fake" a doctor's excuse due to lack of preparation. The penalty for this is severe and could affect you for the rest of your career.

This makeup exam will cover the same material that was covered on the missed exam. **If a student fails to provide sufficient documentation of the absence or the absence is not a University approved excused absence, the student will receive a zero for the missed exam. ALL STUDENTS MUST TAKE ALL EXAMS.**

Data Analysis Projects: Small data analysis projects covering specific topics will be given throughout the semester. The approximate assignment and due dates are given on the course calendar. These dates are subject to change depending on the pacing of the class. The data analysis projects will require the analysis of a realistic business problem using predictive modeling. The deliverable will be a short analysis report summary targeted for management of a company detailing the results and recommendations from the analysis.

Homework: Small ungraded problem sets may be assigned following class. **Completing these homework assignments is a requirement of the course.**

Communication: Your Auburn University e-mail address ([userid@auburn.edu](mailto:user@auburn.edu)) will be used for course communication. It is your responsibility to contact the Information Technology Help Desk to have this address forward mail to the e-mail address that you regularly check. I will not regularly check the communication through the Canvas site.

Academic Honesty: All portions of the Auburn University student academic honesty code (Title XII) found in the Tiger Cub will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Grading Policy: A \geq 90%, B \geq 80%, C \geq 70%, D \geq 60%, F<60%.

Special Accommodations for Students with Disabilities: Students who need special accommodations in class, as provided for by the *Americans with Disabilities Act*, should arrange for a confidential meeting with the instructor during office hours in the first week of classes (or as soon as possible if accommodations are needed immediately). The student must bring a copy of their Accommodation Letter and an Instructor Verification Form to the meeting. If the student does not have these forms, they should make an appointment with the Program for Students with Disabilities, 1288 Haley Center, 844-2096 (V/TT).