Advanced Marketing Research Analytics: BAN 5763 Spring 2018 (Tentative Syllabus)

(both non online and online sections)

Professor: Dr. Goutam Chakraborty

Office: 420A old building (458 new building), Phone: (405) 744-7644, Fax: (405) 744-5180

Office Hours: Tuesdays, 2-330 PM CST or, by appointment

Course Site: (Brightspace): http://online.okstate.edu or http://my.okstate.edu (choose Online Classroom after logging in)

Online Learning Support: spearsonline@okstate.edu , Phone: 405-744-4048

Course Description

My assumption is before coming into this advanced class, you have already been exposed to basic descriptive analytics techniques in BAN5733, predictive modeling techniques in BAN5743 and advanced business analytics techniques in BAN 5753. I also expect that you should have some basic understanding of vectors, matrices and linear algebra to be able to appreciate the mechanics behind the techniques handled in this class.

The primary objective of this course is to prepare *Advanced BAN students* to *properly use* multivariate techniques as well as machine learning techniques. The focus of this course is on applications and not theory. My primary goal is make you familiar with many different multivariate and machine learning techniques so that given a analysis problem, you will be able to choose a correct technique, use SAS® and other tools such as R and Python to analyze the data, interpret what you get from the computer analysis and understand the implications of the results of your analyses.

Most class lectures will be handled via video (video links will be posted on Brightspace) that you can watch at our own convenience (you will need a high-speed Internet connection to watch the lectures). Some of the lectures will be handled during special trainings scheduled on Saturday/Sunday. However, you must work on exercises/assignments/projects as assigned by the instructor and turn these in via the drop box by the specified deadline.

Course Objectives

This course has five major objectives that fit within five of the program learning goals.

Course Objective	Program Learning Goal
Students will be able to engage in analytical reasoning to break problems into their component parts; identify important patterns by analyzing data; and test for assumptions behind models.	• Critical Thinking
Student can apply science and business principles to analyze and interpret data, using analytic and computer-based techniques.	• Critical and Creative Thinking
Students will be able to present written results from their analyses by relating those back to the business issues that demonstrate a mastery of language and mechanics.	• Written Communication
Students will be able to present their results orally using a message that is well organized, concise and quickly understandable by business professionals.	• Oral Communication
Students will be able to use appropriate tools and technologies for data visualization and modeling.	• Technology Skills

Computer and Software Requirements:

- A broadband internet connection
- Windows 7 or Mac OS Mavericks or newer operating system are preferred
- Google Chrome or Mozilla Firefox web browser
  Note: lecture videos are not compatible with Internet Explorer or Edge
- VLC Viewer video player (click on link to download)
- Other software such as SAS, R, Python, etc. as needed

Required Text:

There is **no required text book** in this class. I will primarily use readings off the web, cases, SAS training materials, chapters from reference books, etc. in this class. I have indicated a number of good books (under reference texts) on this topic that you may find useful. I will announce additional readings via postings on Brightspace or via email.

Reference Texts:

These are great resources. You will find them very useful for writing *papers* and doing *assignments*, *projects* and going on *interviews*. So, I strongly recommend that you read them.

1. Multivariate Data Analysis, by Hair, Black, Babbin and Andersen. Prentice Hall, 2010 (**7th edition**).
2. Neural Networks with R: Smart models using CNN, RNN, deep learning, and artificial intelligence principles by Giuseppe Ciaburro and Balaji Venkateswaran

Communication Plan:

Teaching Assistant (TA): The TA for this class will be announced via Brightspace during the first two weeks of class. There may be other TAs helping me with this class as well. But, the announced TA will be your primary point of contact for any issues related to this class. The TA will monitor the Brightspace Discussion Board platform twice a day (morning and afternoon). If they are not able to answer your questions immediately, they will contact me and get a response to you as soon as possible (usually within 24 hours).

E-mail: Please use the class discussion board via Brightspace for any general questions, comments, clarifications about any of the class topics (including cases, assignments etc.). Use the e-mail to my TA sparingly and only for questions that disclose or ask for personal information (such as grades, scores, etc.) *There is no need to copy me with your email to my TA – if my TA is unable to answer your question*, he/she will discuss with me and get back to you.

Response Times: The TA or I will respond to student inquiries within 24 hours during Monday-Friday business hours. Students may expect grades for assignments to be posted to the Gradebook in the online classroom within two weeks of turning in the assignment. ***Please consider these timelines when you are scheduling your course work assignments. While the TA and I will do everything we can to respond in a timely manner, waiting to post a question one hour before the assignment is due will not allow for adequate time for a response.***

Class Discussion via Brightspace (https://online.okstate.edu/): We will use this format extensively for communication among students as well as between students and the instructor. This will be a bulletin-board type system with specific folders for different aspects of this course. There will be multiple forums (folders) in this bulletin board. Please check these folders regularly. Please post your questions only in the **appropriate forums**. Please use appropriate subject line in your posting and use threaded discussion whenever possible.

All students are expected to participate in all aspects of the class. Online discussions can provide everyone with valuable tips and techniques to common problems. One thing I do not want is a string of postings with little to offer on the topic (i.e., Thank you, ditto, me too, etc.). If you are responding to a post, please make it courteous and helpful. Do not type in all caps unless it is within a program or your classmates will think you are mad about something that was said.

Course Format

Lectures: The link for each video lecture will be posted on Brightspace. It is your responsibility to watch the lecture video and do appropriate readings/exercises **before** coming to the lab. *All students (both on campus and online learning)* will be given access to lecture videos. The weekly lab will be recorded, and those videos will be available each week to online learning students.

Labs

- *Non-Online learning students:* All non-online learning students **must attend lab on the specified day/time based on the section you are enrolled in**. The lab sessions will be used primarily for doing exercises, assignments, cases, data analysis, pop-up quizzes, questions and answers, etc. **All lab sessions will be held in the Business 050 computer lab (new building)**.

- *Online learning students*: *It is not required to attend labs physically*. You will however be given access to lab videos as appropriate (where we may discuss solutions to assignments, exercises, cases and/or handle Q&A on lecture topics). I expect you to watch these lab videos as soon as they become available.

Special Training:

From time-to-time, I will bring in guest lecturers (who are experts in certain areas) to teach specialized modules. These will typically be held on Saturday/Sunday intensive format. The exact dates and times will be announced in the schedule (or, via website/email) and will be communicated to you in advance. All non-OL students are required to attend these special training sessions. Online (OL) students may attend these live via Go To meetings. In addition, we will make recordings of the sessions available.

Access to Software

SAS access online: Each student will be given access to OSU's virtual SAS via VMWare (you will need high-speed Internet connection and vpn access to OSU to connect to this from off-campus). We may use Base SAS, SAS EM, SAS Studio and others very heavily in this course along with R and Python (free versions available online). If you are an off-campus student, I strongly recommend that you get SAS for your own PC/Laptop so you are not completely dependent on the virtual access (which may be slow at times due to heavy usage or slow Internet access).

Finally, as an instructor I retain the right to modify this tentative syllabus based on how the class progresses. If I make changes, I will let you know via Brightspace and/or email.

Drop Policy

Information about university drop policy and dates is at this website: http://registrar.okstate.edu/

To drop this course, contact the Registrar's office, (405) 744-6876, or drop through Banner Self Service,

http://my.okstate.edu

Class Requirements (for Non-Online and Online Learning Students)

Exams: One comprehensive final exam (**25% of course grade**). Exact dates and times for the exam will be announced in class or via Brightspace. It will **be held in the finals** week.

Software: We will use many software packages including SAS, R and Python in this course.

Lab Participation, Attendance and Exercises (Individual): Because of the emphasis on "hands-on learning" in this course, attendance at all scheduled lab meetings (and special training modules) is *mandatory*. You are responsible for having read and analyzed the assigned cases and/or readings or finish watching the video lectures prior to each lab session. You can expect to be called upon to comment on these materials on a regular basis in the lab sessions. I may also use short pop-up quizzes from time-to-time to evaluate your understanding of lecture materials and assigned readings. These pop-up quizzes will be administered at the beginning of the lab and will be used for class participation points. If you are late in coming to the lab and/or absent, you will miss the participation points for that session. Throughout the semester you will also be working on many exercises (using appropriate software) in the lab and during the week. Lab work (exercises, participation, discussion, etc.) will count for **20% of the course grade**. You must bring a table card (that clearly shows your name) to each lab session.

Group Assignments: There will be a few group assignments (**55% of the course grade**). These will typically involve extensive data analysis. All of these assignments will be done in groups. You will work in small groups of about 4 students to do these assignments. I encourage you to form teams by *combining non-online and online learning students*. I may use the peer evaluations from time-to-time to adjust assignment grades for a group member, as necessary.

Semester Grades: The final grade will be based as follows: 90% or above will result in A, 80% or more will result in B, 70% or above will result in C, 60% or above will result in D. Those getting less than 60% will get an F. I will look at the distribution of the total scores and use any appropriate normalization as needed.

Late Assignments: Any assignment (individual or groups) must be turned in by the class time on the due date via bight space drop box (not emails). All late assignments (*even 1-minute late*) must be turned in **via the Late Drop Box** and will be *penalized* as follows:

- One late assignment (within 1-hour of due date and time) – *no penalty*
- All other late assignments will carry following penalty structure:
  - Within 1 hour of due date and time – 15% penalty
  - More than 1 hour but less than 24 hours of due date and time – 30% penalty
  - More than 24 hours but less than 48 hours of due date and time – 50% penalty
  - More than 48 of due date and time – will not be graded (no credit)

I enforce this rule because I believe that part of effective functioning in business is the ability to complete projects on time. **Please do not email/call/contact me or my TA with excuses (however valid they may be) about making exceptions to my late submission policy.**

Note: More details on the assignments/cases/readings/projects will be posted on the class site. Also, for all other issues such as add/drop policy, academic integrity etc., I will follow OSU guidelines as posted in the site below – look at the bottom of the following page for syllabus attachment
http://academicaffairs.okstate.edu/content/resources-faculty-staff.

Student Disability Service Issues: If any member of the class believes that s/he has a physical, emotional, or psychological disability and needs accommodations of any nature, the instructor will work with you and the university Office of Student Disability Services (SU 315, 744-7116 v/t) to provide reasonable accommodations to ensure that you have a fair opportunity to perform in this class. Please advise the instructor of such disability and the accommodations as soon as possible. You will need to also contact the Student Disability Services office. receive accommodations. No accommodations will be made without prior notification.