Methods and Models in Business Analytics

Fall 2015

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CATALOG DESCRIPTION:
Business Analytic is an interactive process of analyzing and exploring enterprise data to find valuable insights that can be exploited for competitive advantage. Business Analytics models and methods are discussed.

STUDENT LEARNING OUTCOMES (SLOs):
Upon completion of this course, students will demonstrate a broad knowledge and clear understanding of critical concepts, practices and issues in developing and using Business Analytics (BA) models and methods. This course makes extensive use of SAS Enterprise Miner software.
Specific course outcomes are:
1. Demonstrate an understanding of Business Analytics
2. Identify, design and assess different business analytics methodologies
3. Prepare and formulate data collection, sampling, preprocessing
4. Describe data quality controls
5. Explore and develop descriptive and predictive analytic models
6. Apply and assess different predictive modeling techniques
7. Evaluate efficacy of different analytics model implementations
8. Demonstrate proficiency in the use of SAS Enterprise Miner

COURSE MATERIAL
This course is Web based and delivered on-line. It blends assignments, online discussions, final project and final exam. All teaching material including textbooks, assignments, handouts and other learning resources needed for this course are available electronically at the course Canvas site. It is your responsibility to read the assigned readings. Please sign into Canvas to gain access to the material and come back frequently, as I upload new content throughout the semester.

REQUIRED TEXT BOOKS
Available free via Canvas.
1. Applied Analytics Using SAS® Enterprise Miner™ Course Notes was developed by Peter Christie, Jim Georges, Jeff Thompson, and Chip Wells. Additional contributions were made by Tom Bohannon, Mike Hardin, Dan Kelly, Bob Lucas, and Sue Walsh. Editing and production support was provided by the Curriculum Development and Support Department. Copyright © 2011 SAS Institute Inc. Cary, NC, USA.

2. Advanced Business Analytics Course Notes was developed by Catherine Truxillo, with contributions by Bob Lucas, Mike Patetta, Kari Richardson, and Chip Wells. Reviews were provided by Tom Bohannon, Goutam Chakraborty, André de Waal, Catherine Gihlstorff, Jerry Oglesby, and Jeff Thompson. Editing and production support was provided by the Curriculum Development and Support Department. Copyright © 2012 SAS Institute Inc. Cary, NC, USA.
RECOMMENDED TEXT BOOKS

SOFTWARE NEEDED FOR THE COURSE:
This course makes extensive use of SAS® Enterprise Miner™ 13.2. You can access this software via mycloud.unege.edu. The instruction for getting access to the software will be distributed to the students in the first week of class and will be available via course Canvas.

SOFTWARE IMPLEMENTATION ASSIGNMENTS
You will have three topical assignments each one dealing with specific tools available in SAS® Enterprise Miner™. Assignments are due on the date/time specified in the course. Assignments turned in late will be assessed a grading penalty. Assignments submitted after the due date may not be accepted but, if they are based on valid excuse, there will be a minimum of a 20% reduction for each day late. Also, any assignment that requires rework will be assessed at least 20% penalty.

1. Assignment 1 deals with data collection, sampling, preprocessing and quality control descriptive model development.
2. Assignment 2 deals with predictive model development and assessment and implementation.
3. Assignment 3 deals with clustering and market basket analysis model development and assessment and implementation.

FINAL PROJECT AND REPORT
You must join a group of NOT MORE THAN 4 to develop a final research proposal and a final report on a topic of approved by the instructor. This project topic must be related to one or more aspect(s) of Business Analytics as discussed in the course, where you will be developing and/or examining the impact of BA methods and models in a business environment. This project will have two parts. The first part is a report where you propose and describe your final project topic, its importance and a proposed methodology. The second part is the actual project implementation and write up. I will describe this project further as we go along in the course.

FINAL EXAM
A timed on line final exam is required for the course. The exam will test your knowledge of business analytics topics and the use of software.

CLASS DISCUSSION BOARD AND PARTICIPATION IN COLLABORATE SESSIONS
Each student is required to regularly discuss online with the instructor on project progress.

EVALUATION AND GRADING:
The course will be letter graded. A student’s final grade will depend on the quality of the project components.

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Assignments (1 @ 10% and 2 @ 15% each)</td>
<td>40%</td>
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<tr>
<td>Final Project and Report</td>
<td>30%</td>
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<tr>
<td>Final Exams</td>
<td>25%</td>
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<td>Total</td>
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Letter Grades and Points
ATTENDANCE POLICY:
Since it is an online class, no physical class-room attendance is required. It is the student’s responsibility to stay on track with readings and assignments to be successful in the course.

NETIQUETTE:
The same guidelines that apply to traditional classes should be observed in the virtual classroom environment. Please use proper netiquette when interacting with class members and the professor.

POLICY ON SERVER UNAVAILABILITY OR OTHER TECHNICAL DIFFICULTIES
The university is committed to providing a reliable online course system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will extend the time windows and provide

Electronic Mail and Canvas Accounts:
You should check your UNCG email and Canvas course link regularly as I may send email updates or add new info on Canvas on an ongoing basis. You will be responsible for any information or announcements contained in the email messages or updates on Canvas.

Academic Integrity Policies:
Students in the Bryan School must conform to all existing principles found in UNCG’s Academic Integrity Policy and the Student Code of Conduct. Further details may be found at the following site: http://sa.uncg.edu/handbook/

Expectations of Faculty and Students in the Bryan School:
Students should read the Guidelines for Faculty and Students presented on the web pages found at: http://www.uncg.edu/bae/faculty_student_guidelines.pdf

Course Evaluation
Each student will be asked by the University to complete an on-line course evaluation near the end of the course. This evaluation is important to the University in its efforts to continually improve the delivery of courses. More information about the evaluation will be provided later in the course.

Course Routine and Schedule
To provide some structure to each week of study, we will follow the routine described below:

- On each Monday to Wednesday of a particular week, check the Canvas for that week. You should look for the online of topics for the week, and download and start reading the week’s reading and plan on viewing the multimedia files, etc.

- By Thursday or Friday of each week, you should have completed the readings and tutorial and start working on any assignments. In those days, you should look on Canvas a couple of times a day for Discussion Board questions, Blogs and Wikis to read and enter into the interactive exchanges with other students and the instructor. You should post your comments about the week’s readings, assignments or any other questions.

- On Saturday or Sunday of the week, you should be wrapping up your reading and get ready for next week and get ready to submit any deliverables

- On Monday, of starting the second week of the course, you should upload your assignment, if any, to Canvas and start over.
What you need to take this course:

1. Your reading list and individual articles and readings in that list.
2. You must have access to a computer that connects to the Internet. The course materials are only accessible online by logging in to Canvas- your student identification number is required. If you do not own a computer, the computer labs on campus will be open during this semester.
3. You must have a working e-mail account. Your first assignment will be to update your e-mail address on the course Web site. Instructions are online on Canvas- you must log in to see the course materials.
4. Because of e-mail viruses, Prof. Nemati does not accept e-mail from unknown sources. Therefore, you must use the subject ISM 675 and your full name typed in the message, or the e-mail may be ignored.
5. It’s impossible for Prof. Nemati to be familiar with every e-mail software application on the market, so please don’t ask for technical assistance.
6. You must check your e-mail account regularly throughout the semester. Official announcements will be made by e-mail, and on the course Web site at Canvas.
7. You are responsible for saving all assignments correctly, so you can turn them in electronically. You should be comfortable using word processing software, and have reasonable keyboarding skills. All assignments will REQUIRE you to use word processing or text editing software. No assignments will be accepted in handwritten form.
8. Supplies: Although you will be publishing (uploading) your assignments, it's a good idea to keep copies of everything.

A note about you and this course

Students learn best in quite different ways. One of the advantages of the online format of the course is that it allows students to approach the course in ways that suit their personal styles and preferences. In classrooms, instructors are inclined to teach either as they themselves were taught, or as they think "the average student" prefers. Online, all of the instructor-presented class material is laid out at once, and students can do with it whatever they prefer in order to learn in as personal and unique a fashion as possible.

To understand how you might learn best and how you might approach the course, it's suggested that you complete a learning style inventory, use the information given to figure and interpret your score, and plan your learning strategy accordingly. Another couple of online tools of this sort are the Keirsey Temperament Questionnaire (http://www.keirsey.com/sorter/register.aspx) and the Keirsey Character Questionnaire (http://www.keirsey.com/).

This course by design specifically accommodates different learning styles by involving a variety of components, including text, video clips, self-check quizzes, reference lists, online discussion, blogs and wikis. Since you are probably used to learning more or less as prescribed or required by a classroom teacher and are not used to designing your own learning strategy, it might take a little time to do that and to settle into a comfortable routine. I think you'll find that as you figure out on your own (and with the help of the online questionnaires mentioned) how to learn the material, everything will fall into place. Online learning, you will find, is quite different than classroom learning. It requires different attitudes, responsibilities, and communication skills.

Emails:

- Always include a subject line.
- Remember without facial expressions some comments may be taken the wrong way. Be careful in wording your emails. Use of emoticons might be helpful in some cases.
- Use standard fonts.
- Do not send large attachments without permission.
• Special formatting such as centering, audio messages, tables, html, etc. should be avoided unless necessary to complete an assignment or other communication.
• Respect the privacy of other class members

Discussion Groups:
• Review the discussion threads thoroughly before entering the discussion. Be a lurker then a discussant.
• Try to maintain threads by using the "Reply" button rather starting a new topic.
• Do not make insulting or inflammatory statements to other members of the discussion group. Be respectful of other’s ideas.
• Be patient and read the comments of other group members thoroughly before entering your remarks.
• Be cooperative with group leaders in completing assigned tasks.
• Be positive and constructive in group discussions.
• Respond in a thoughtful and timely manner.

Chat:
• Introduce yourself to the other learners in the chat session.
• Be polite. Choose your words carefully. Do not use derogatory statements.
• Be concise in responding to others in the chat session.
• Be prepared to open the chat session at the scheduled time.
• Be constructive in your comments and suggestion