



ISM 425 Business Analytics

Fall 2018

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CATALOG DESCRIPTION:

Study of the techniques and methods of business analytics, including gathering, processing and analyzing large volumes of data to generate insights that inform business decisions.

PREREQUISITES:

ECO 250 and either ISM 218 or ACC 325. ISSCM major or Information Technology minor.

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. 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 ASSIGNMENTS

You will have three topical assignments each one dealing with specific set of topics in business analytics. The assignments use *Enterprise Miner*TM. 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 analytics model development.
2. Assignment 2 deals with predictive business analytic model development, assessment and implementation using different supervised techniques.
3. Assignment 3 deals with predictive business analytics model development, assessment and implementation based on clustering and market basket analysis techniques.

BUSINESS ANALYTICS CASE STUDY PRESENTATION AND REPORT

You must join a group of NOT MORE THAN 3 to develop a presentation of one of the case studies presented in PA and write a report synthesizing the lessons learned from this case study. More information about the details of this presentation and your report will be forthcoming during the course.

FINAL EXAM

A timed final exam is required for the course. The exam will test your knowledge of business analytics topics and the use of software. Please make sure you attend class in order not to miss details about the exam. I will discuss the details of the exam during the semester.

QUIZZES

We will have a few short pop quizzes in this class. These quizzes will be given at the beginning of the class and will be unannounced. The quizzes deal with one specific topic in business analytics that we have covered in the class. You have the option of dropping the lowest quiz grade.

REQUIRED TEXT BOOKS

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 Robert Blanchard, Tom Bohannon, Mike Hardin, Dan Kelly, Jay Laramore, Bob Lucas, André de Waal, and Sue Walsh. ISBN 978-1-63526-196-7. Editing and production support was provided by the Curriculum Development and Support Department. Copyright © 2017 SAS Institute Inc. Cary, NC, USA. Available free via Canvas. I will refer to this text as AA
2. *Advanced Predictive Modeling Using SAS® Enterprise Miner™ Course Notes* was developed by Jim Georges and Christina Andersson, and revised by Jeffrey Thompson and Chip Wells. Additional contributions were made by Mike Patetta, Catherine Truxillo, Anette Almer, Stefan Ahrens, Tamara Fischer, Mihai Paunescu, Torsten Scholz, and Reinhard Struby. Editing and production support was provided by the Curriculum Development and Support Department. Copyright © 2017 SAS Institute Inc. Cary, NC, USA. Available free via Canvas. I will refer to this text as AP
3. *Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die*, 2nd Edition. By Eric Siegel, Wiley Press, ISBN-13: 978-1119145677. (I will refer to this text as PA)

SUPPLEMENTAL TEXT BOOKS

1. *Credit Scorecards Using SAS® Enterprise Miner™* Editing and production support was provided by the Curriculum Development and Support Department. Copyright © 2013 SAS Institute Inc. Cary, NC, USA. Available free via Canvas. Available free via Canvas
2. *Data Mining Using SAS® Enterprise Miner™: A Case Study Approach*. Editing and production support was provided by the Curriculum Development and Support Department. Copyright © 2018 SAS Institute Inc. Cary, NC, USA. Available free via Canvas. Available free via Canvas
3. Other books on Specific topics in SAS are also available for free via Canvas.

COURSE MATERIAL

This course blends lecture presentation, assignments, discussions, exams and a research project to achieve its learning outcomes. Except for Dr. Siegel's book, all teaching material, including text books, assignments, handouts and other learning recourses 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.

SOFTWARE NEEDED FOR THE COURSE:

This course makes extensive use of SAS® Enterprise Miner™ 14.3. This software is the leading data analytics tool available in the market. This software is part of SAS 9.4 suite of products that constitute perhaps the powerful analytical tools. This software can be accessed via the UNCG's mycloud (mycloud.uncg.edu). Instructions as how to do that are on Canvas. You can also get your own personal copy of SAS and SAS® Enterprise Miner™ and install them on your machine. SAS® 9.3 or 9.4 and SAS Enterprise Miner™ are very expensive software and having your own personal copies is a good thing. The instruction for getting your personal copies can be found at <http://its.uncg.edu/software/available/sas/>. You need to do this during the first couple of weeks of the term.

EVALUATION AND GRADING:

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

Contribution to class discussion board and Participation	50
Assignments (3 @ 150 each)	450
Quizzes	100
Case Study Presentation and Report	150
Final Exams	<u>250</u>
Total	1000

Your letter grade will be based on the following distribution: Grades are truncated, not rounded

Points	Grade	Points	Grade	Points	Grade	Points	Grade
980-1000	A+	880-899	B+	780-799	C+	680-699	D+
930-979	A	830-879	B	730-779	C	630-679	D
900-929	A-	800-829	B-	700-729	C-	600-629	D-
				< 600	F		

ATTENDANCE POLICY:

Since it is an online class, no physical class-room attendance is required. However, I will have weekly WebEx on-line sessions that you are required to attend. Typically, these sessions will be on Thursday 5:30-6:30 PM, 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 ACCOUNTS:

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

ACADEMIC INTEGRITY, ETHICAL ISSUES AND THE HONOR CODE POLICIES:

Students are responsible for becoming familiar with the Academic Integrity Policy in all its aspects and for indicating their knowledge and acceptance of the Policy by signing the Academic Integrity pledge on all major work submitted for the course. All individual assignments must be done by only you. Individuals should not work on assignments together. A single failure to follow this policy will result in a grade of 0 on that assignment; subsequent violations of this policy will result in a grade of F for the course. University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such illicit possession of examinations or examination materials, forgery, or plagiarism. Students will NOT make, borrow, or "share" copies of their assignments or files with other students. Plagiarism is defined as "presenting as one’s own work that work which is, in whole or in part, the work of another person or persons without giving proper credit to the appropriate source." This includes submitting work done by another, as one’s own work. It is understood that what you turn in to me for grade represents your own effort. Plagiarism

will be immediately punished with a grade of zero for the assignment in question. Further disciplinary action will be pursued as I deem appropriate. Helping one another is allowed, but copying is cheating. No credit will be received for shared work, and other penalties may be imposed. I will pursue cheating as far as the university allows me. Specific information on the Academic Integrity Policy may be found on the UNCG web site at <http://academicintegrity.uncg.edu>

STATEMENT OF STUDENTS' RIGHTS AND RESPONSIBILITIES

You have the right to expect:

1. Your professor to be prepared for each class, to start class promptly at the designated time and to end class at the designated time.
2. Your professor to teach all scheduled classes or arrange for a qualified substitute if it is necessary to miss class because of illness or University approved commitments.
3. Clear statements of course expectations, policies, testing and grading practices and student performance.
4. Your professor to hold a reasonable number of office hours to discuss assignments or to assist you with course matters.
5. Your professor to read and respond to student emails in a timely fashion – weekdays within 24 hours and weekends within 48 hours.
6. Knowledgeable assistance from your professor regarding class assignments and course content.
7. Professional behaviors reflecting equitable treatment, ethical practices and respect for your rights.
8. Opportunities to challenge ideas and defend your beliefs in a professional manner.
9. To be challenged to grow both academically and professionally. This means I may openly disagree with some responses or comments. Use such exchanges to grow intellectually.
10. Information regarding career opportunities related to ISM programs.
11. Your professor to abide by University policies.
12. Fairness and clarity in evaluation of your performance.
13. Adequate opportunity to appeal any perceived violations of the above rights.

You have specific responsibilities to:

1. Read your UNCG email at least once each 24 hours;
2. Read all posted announcements in the course management system;
3. Keep track of your class grades all the time and report any grading immediately;
4. Commit yourself to grow academically and professionally;
5. Plan your study and work schedule appropriately to allow sufficient time to do quality work in the course (Review “Suggested Academic Workload Guidelines” for the Bryan School of Business and Economics published in the UNCG Undergraduate Bulletin);
6. Complete all assignments in a professional manner;
7. Strictly adhere to the posted deadlines. Otherwise, accept the penalty based on the policies specified by the instructor;
8. Practice ethical behaviors and display respect to the rights of others;
9. Timely contact your instructor and discuss circumstances that may prevent you from achieving acceptable performance;
10. Understand and follow the school and course policies, including the UNCG Academic Integrity Policy (<http://sa.uncg.edu/dean/academic-integrity/>), and report observed violations of these policies.