Course Syllabus
SCMS 7110 – Introduction to Business Analytics
Spring Semester, 2017
3.0 Credit Hours
(Last updated: 01/10/2017)

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Office Hours: M-W 5:30 – 7:00 PM or by appointment

COURSE DESCRIPTION:

Sustainable competitive advantage requires model- and data-driven decision making at the strategic, tactical and operations levels, referred to as Business Analytics (BA). Business Analytics, a set of knowledge, practices, models, tools and technologies utilized in the real-world by all industries for effective managerial decision making. The major objective of this course is to provide students with a broad theoretical as well as practical knowledge about business analytics, including a host of decision modeling tools and technologies to support and improve managerial decision making in a variety of industries. The course provides basic knowledge and skills for model- and data-assisted decision making based on hands-on experience with relevant tools and technologies adopted from the areas of descriptive analytics, predictive analytics and prescriptive analytics. The course introduces and examines the critical role of business analytics in approaching a host of strategic, tactical and operational issues and problems. Applying case study- and real-world project-based approaches, we focus on problem framing, model building, and decision-making approaches and technologies. Extensive use is made of MS Excel 2010 and its add-ins to support a host of topics. In addition, we’ll utilize Crystal Ball software available free to you for 140 days via the textbook companion website access code, located on the inside back cover of your textbook.
COURSE OBJECTIVES:
- Developing a knowledge base required for business analytics.
- Enhancing understanding of tools and skills sets required for application of business analytics approaches to real-world managerial decision making.
- Providing opportunities for applying various business analytics technologies to managerial decision-making.
- Improving the critical-thinking process.

TEXTBOOKS AND LECTURE NOTES:

ADDITIONAL READINGS/VIDEOS:
To further support our discussions, you’ll be asked to review some articles and be prepared to discuss them during the class sessions. Please check the course website for the readings assignments. Also, occasionally you’ll be assigned some relevant videos to our class discussions.

LOCATION OF COURSE MATERAIL:
This is a fully online course and all course materials (lectures, discussion topics, news, etc.) are located on the eCourseware website (opens in new window).

COPYRIGHTED LECTURE POWERPOINT SLIDES AND NOTES:
My lectures’ PP slides will be available on the course website for your download. You might make a single copy of the slides for your use, but please note that the material within the lecture notes are copyrighted and are prohibited for copying and distribution. The material within the lecture PP slides are copyrighted due to my publisher’s request.

FOGELMAN COLLEGE: LEARNING OUTCOMES FOR YOUR DEGREE PROGRAM
This course is designed to help you to meet the overall learning objectives for the BBA degree offered by the Fogelman College. You should take the time to become familiar with the overall learning objectives as a student in the MBA degree program.
- BBA Program Outcomes (opens in new window)
- BBA in Accounting Program Outcomes (opens in new window)
- MBA Program Outcomes (opens in new window)
- IMBA Program Outcomes (opens in new window)
- EMBA Program Outcomes (opens in new window)
HARDWARE, SOFTWARE AND INTERNET REQUIREMENTS:

- You need to have access to a desktop or laptop. Having a laptop and bringing it to each class session would allow students to effectively benefit from hands-on class exercises. I encourage you all to bring your laptops to each class session.
- Your desktop/laptop should have MS Office 2010, including PowerPoint, Word and Excel.
- You need to be fresh on your MS Excel skillsets. This course uses Excel for every topic. To refresh yourself, please study Appendix B in your textbook.
- There are two Excel Add-In which you need to activate within your Excel software. They are: DATA ANALYSIS and SOLVER add-in. See my instructions to activate these options at the end of the syllabus. We’ll be using these two add-in extensively.
- Also, test how to access Crystal Ball software available via the textbook website. You need your access code to access the software.
- In addition, a set of Excel Modules are available via the textbook website.
- You need to have access to internet. This allows you to access the course website and also participate in your Student-Group Discussion Board for completing assignments, cases, project and studying for exams.
- You need to have MS Media Player or other players allowing you to access YouTube videos.

INDIVIDUAL AND STUDENT GROUP ACTIVITIES:

- **Readings and BA Short Stories Assignments:** To be prepared for our class discussions there are three sets of readings assignments are assigned to individual student. These assignments should be completed prior to the designated class session. They include: (a) Chapters from the textbook prior to class sessions; and (b) Preparing and discussing short reports of papers and YouTubes on the topic of business analytics. In-Class Exercises & Problems: Exercises and problems will be offered during the class session, requiring individual students or student groups to work on and provide their answers and input.
- **Student-Group Case Studies:** Giving students the opportunity to practice the learned business analytics knowledge, methods and tools, from each chapter/lecture a few cases would be selected and assigned to different student groups for analysis and presentation in the class. Each student group is required to submit a single case analysis report and PowerPoint presentation for each assigned case.
- Above, I have listed an optional book, *The Case Study Handbook: How to Read, Discuss, and Write Persuasively about Cases*. This book would be very useful in analyzing and reporting the outcomes of case studies. Knowing that MBA-level courses all involve case studies, I believe the book would be a good investment not only for this course but also the courses you plan to take within the MBA program.
This also would be useful for your group semester project.

- **Student-Group Case Study Assignments:** Please note that each case study might be assigned to one or two student groups. Each assigned case study will be presented and discussed in the class by the individual or competing groups. This may give us more than one analysis on each case, enriching our class discussions. The list of the case study titles and the source textbook chapters are shown after the detailed course schedule below.

- **Student Group Real-World Project:** In consultation with me, each student group identifies a real-world business managerial decision within an organization requiring application of business analytics learned knowledge, methods and techniques. Each student group presents the project outcomes, including organization overview, the specific managerial issue, data collection, modeling efforts, solution and analysis of results at the end of semester and provide me with a single report. You can follow the format of the assigned case studies to develop your project report followed by your analysis.

- **Exams:** Two exams will be administered to be sure that the fundamental knowledge, methods and tools covered in this course are learned. All students will be taking exams on the scheduled date. The exams might be offered in the class or be given online. **There is no make-up exam.**

### STUDENT ATTENDANCE AND PARTICIPATION POLICIES:

Class attendance and participation are expected. Active participation of students in all class discussions, homework assignments, case study discussions, and semester projects discussions are encouraged by the course grading method. Topics may be presented that are not within the textbook. A substantial portion of this class is intended to foster learning through discussion.

### COURSE ACTIVITIES EVALUATION:

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<thead>
<tr>
<th>Main Activity</th>
<th>Percentage Point</th>
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<tbody>
<tr>
<td>In-Class Exercises &amp; Short Stories</td>
<td>10%</td>
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<tr>
<td>Group Case Assignments</td>
<td>40%</td>
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<tr>
<td>Group Semester Project</td>
<td>20%</td>
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<tr>
<td>Exams I and II</td>
<td>25%</td>
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<tr>
<td>Class Participations</td>
<td>5%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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### FINAL GRADE ASSIGNMENT:

Final course grades are earned according to the following table:

<table>
<thead>
<tr>
<th>Point Range</th>
<th>Assigned Grade</th>
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<tbody>
<tr>
<td>95 – 100%</td>
<td><strong>A</strong></td>
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<tr>
<td>Point Range</td>
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<tr>
<td>90 – 94.99%</td>
<td>A-</td>
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<tr>
<td>87 – 89.99%</td>
<td>B+</td>
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<td>84 – 86.99%</td>
<td>B</td>
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<tr>
<td>80 – 83.99%</td>
<td>B-</td>
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<tr>
<td>77 – 79.99%</td>
<td>C+</td>
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<tr>
<td>74 – 76.99%</td>
<td>C</td>
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<td>70 – 73.99%</td>
<td>C-</td>
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<td>&lt; 60%</td>
<td>F</td>
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**REQUIRED MICROSOFT EXCEL SKILLS AND ADD-INS:**

Approaching overwhelming majority problems in the realm of business analytics requires sophisticated algorithmic approach imbedded in computational platforms and software. We have option of two software systems to use. The first option is a free Excel-based called Analytic Solver Platform for Education (ASPE) (I have already distributed instructions for download and installation of this software.). This software includes all modeling approaches under a single Excel-based platform. The second option is to install and use a collection of Excel-based add-ins and software, including: (a) Excel Data Analysis add-in; (b) Excel Solver add-in; (c) Excel Functions and Modules; and (c) Crystal Ball Software. These options are available directly via your laptops/desktop MS Excel Version 10 and the textbook website. To be refreshed about Excel, I recommend you all to review Appendix B, Useful Excel 2010 Commands and Procedures for Installing Excel Modules, in your textbook, pages 561-573.

**SOFTWARE AND EXCEL AD-Ins DOWNLAOD AND INSTALLATION:**

To download and install a free copy of the Excel-based called Analytic Solver Platform for Education (ASPE), please follow the distributed instructions. Follow the steps below to install: (a) Excel Data Analysis add-in; (b) Excel Solver add-in; (c) Excel Functions and Modules; and (c) Crystal Ball Software. These options are available directly via your laptops/desktop MS Excel Version 10 and the textbook website.

1. Follow the instructions in the back of your textbook. You need your unique access code provided in your textbook to download student material and software directly from the textbook website.
2. **Excel Data Analysis Add-In:** Excel comes with a number of “add-ins” that the user can choose to install or not install, and a “standard installation” of Excel does not include all the available add-ins. We’ll be using the Excel Add-ins, “Data Analysis.” If you are
planning to use your laptop/desktop, you may need to do the following. When you are in Excel environment, click on the Microsoft Logo located at the top-left corner of your screen. At bottom of the drop-down menu, select “Excel Options.” On the left side of the Excel Options drop-down menu, select “Add-Ins.” A list of Add-Ins would appear in a drop-down menu. Select the following add-ins: Analysis ToolPak and Analysis ToolPak – VBA Add-in. Next, click on the Go at the bottom of the drop-down menu. This would allow Data Analysis add-in to be installed on your laptop/desktop. After installation is completed, you may locate Data Analysis add-in as follows: Click on Data tab at the top of Excel worksheet. You may see the add-in in the Analysis option. This option allows you to conduct all statistical analyses required for the course.

3. Excel Solver Add-In: For prescriptive business analytics models, we’ll be using an Excel Add-In called Solver. You can directly install Solver via your MS Excel installed on your laptop. Please note that if you own an Apple Computer/laptop, you should consult your user manual to add the Solver. Installation of Excel Solver on other laptop/desktops following steps. Open an Excel workbook and then: Click on File → Options → Add-Ins → Solver Add-in → Go → Check Analysis ToolPak, Analysis ToolPak – VBA, and Solver Add-ins → OK

4. Customized Excel Modules & Crystal Ball Software: Installations steps for both Excel Modules and Crystal Ball software are available via the textbook website. Use the code provided in the back of your textbook to access these two toll sets and also other course material provided by your textbook publisher.

CLASSROOM CONDUCTS AND POLICIES:

1. Please arrive on time.
2. Be prepared.
3. Submit your assignments on time.
4. Turn-off your cells during the class sessions.
5. No Internet browsing unless it is permitted for a class exercise.

ACADEMIC INTEGRITY:

The University of Memphis has clear codes regarding cheating and classroom misconduct. If interested, you may refer to the Student Handbook section on academic misconduct for a discussion of these codes. If you have any questions about academic integrity or plagiarism, you are strongly encouraged to review the Fogelman College’s Website on Academic Integrity (opens in new window).

COURSE SCHEDULE:

The schedule presented in this syllabus is a tentative outline for the course. We will make a reasonable effort to adhere to this schedule. But you should know that I reserve the right to alter this calendar as circumstances may dictate. All changes will be announced in class/the course website. Also, deadlines for assignments will be announced on the course website and in class sessions.
COURSE MAIN TOPICS:

Module I: Business Analytics. Readings: Chapter 1 in the textbook.

Module II: Predictive Analytics. Readings: Chapter 11 in the textbook. Group Case Study 1 Assignment.

Module III: Static Prescriptive Analytics. Readings: Chapters 2, 3, 4 and 6 in the textbook. Group Case Studies 2, 3 and 4 Assignments.

Module IV: Dynamic Prescriptive Analytics. Readings: Chapters 8, 9 and 10 in the textbook. Group Case Studies 5 and 6 Assignments.

FINAL EXAM SCHEDULE:

The final exam for this class will be scheduled according to the Registrar’s academic calendar website (opens in new window).

ADDING / DROPPING:

If you have questions about adding or dropping classes, please refer to this page on the Registrar’s website (opens in new window).

INCLEMENT WEATHER:

In the event that inclement weather requires the cancellation of classes at The University of Memphis, local radio and television media will be immediately notified. Additionally, The University of Memphis has established an Inclement Weather Hotline at 678-0888 as well as TigerText (opens in new window), an emergency alert text messaging service to students, faculty and staff. This optional service is used in the event of an on-campus emergency, an unscheduled university closing, or a delay or cancellation of classes due to, for instance, inclement weather. Additional information on TigerText (opens in new window).

SYLLABUS CHANGES:

The instructor reserves the right to make changes as necessary to this syllabus. If changes are necessitated during the term of the course, the instructor will immediately notify students of such changes both by individual email communication and posting both notification and nature of change(s) on the course bulletin board.

STUDENT SERVICES:

Please access the FCBE Student Services (opens in new window) page for information about:

- Students with Disabilities
- Tutoring and other Academic Assistance
- Advising Services for Fogelman Students
• Technical Assistance