Course Syllabus
SCMS 3711-23109 – Business Analytics: 
Tools and Technologies for Managerial Decision Making
Spring Semester, 2019
3.0 Credit Hours
(Last updated: 1/1/2019)

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Office Hours:  Monday 4:15 – 5:15 PM
              Tuesday 9:00 – 10:00 PM in eCourseware Virtual Classroom
              Wednesday 7:00 – 8:00 PM
              or walk in / or Virtual Classroom appointments

The **purposeful** time you spend working in this class is a *meaningful* investment in yourself.

“There is *no shortcut* to excellence and competence. *Education* is the difference between *wishing* you could help other people and *being able* to help them.” (Dr. Russell Nelson; 2014, emphasis added)

“Our students can do amazing things, but if we don't challenge them fully, they will never realize what marvelous talents they truly possess.” (Ben Hoyle; Fall, 2005)

“I want every student to leave my class at the end of the semester saying, ‘I didn’t know that I could work so hard, and I didn’t realize that I could learn so much.’ Anything less is unacceptable.” (Ben Hoyle; Fall, 2005)

Don’t fear, just do the homework. (Professor Cooper)
Through my personal life experiences and when current and former students share their stories, I know your potential! I not only know what you can become, I also know it can really happen because I have seen it over and over in former students from all walks of life.

My vision and everything I teach in this course is focused not only for this class but also beyond this class, beyond the assignments, beyond the tests, and beyond your grade. I hope that you want, and will put the necessary work into getting, a good grade; but there is so much more to gain from this course.

In return for your time and money you deserve a grade and more! I have designed the class to require meaningful effort that will provide returns beyond immediate gratification, short term memorization and dumping, and numbers in the grade book. I want to foster and incubate crucial knowledge, skills, personal attributes, and generation that will help you change the world – literally! The knowledge, skills, and attributes you will gain will also help you in your day to day life to model personal decisions and to land a job or promotion.

Course Overview:

Focus on critical thinking; introduction to predictive and prescriptive analytics methods and software for analysis and interpretation of common business decisions; regression, time series, and big-data analyses; linear and network models; waiting line systems and computer simulation modeling.

Location of Course Materials:

Course materials including: syllabus, unit outlines, lecture slides, sample problems, online quizzes, homework, homework solutions, and important announcements are located on the eCourseware website (opens in new window). Students who print the lecture slides and other materials do significantly better in the course than those who do not print and use hard copies.

Required Texts (and Related Materials):

- Headphones: To watch digital lectures during class time each student will need a set of personal headphones.

Recommended Texts (and Related Materials):

It is recommended that students have access to the book: Make it Stick, by Peter C. Brown, Henry L. Roediger III, Mark A. McDaniel
Course Objectives:

By successfully completing this course, students will be able to:

- Dispel the Fixed Mindset that math, statistics, Excel, and/or technology/computer programming, etc. are innate gifts; and leave with a Growth Mindset and a successful track record in each of the aforementioned areas.
- Define decision models and describe the importance of such models.
- Develop Character – i.e. the confidence to make correct decisions.
- Apply quantitative models to Solve real world problems.
- Develop and strengthen Soft skills.
- Incubate Generative learning.
- Enhance Excel skills through application based assignments making themselves more Marketable to employers.

Course Methodology:

This class is organized to teach analytic skills using a 3-stage leadership development model which explains that learning is deep when it increases your power to: 1) Know and Understand, 2) Apply, and 3) Internalize. A flipped classroom model will be used to facilitate the effective implementation of this development model.

In simple terms, under this flipped classroom model, the lectures become the “homework” and the “homework” is then completed in groups during class time.

Class participation is essential in this course! The flipped classroom facilitates self-paced learning to help you 1) Know and Understand the material that will be applied in the projects. The projects will help you 2) Apply and 3) Internalize what you have learned by simulating a workplace experience. For this teaching model to work it is essential that everyone come to class prepared just as if going to work. To encourage this preparation, each online lecture will be accompanied by an online quiz and pink slip. These quizzes will account for 21% of your overall grade.

Student’s Expectations of the Professor:

In my role as your instructor, there are certain things you can expect from me including: well-organized, challenging, and engaging learning experiences, response to emails within 1 business day, and feedback on all work submitted within 7 calendar days.

Grading and Evaluation Criteria:

I am charged with helping you to become an effective manager and decision-maker. This course will provide you with knowledge, skills, and tools that you will need in your future endeavors. This, combined with the fact that when you leave my class you will represent me, each other, the Fogelman College, and UofM, makes me take my job as a professor very seriously.

Over the semester, you will have a variety of opportunities to earn points towards your final (overall) letter grade in this course. This section of the syllabus describes the assessed work you will be doing and how overall (final) letter grades will be computed. The individual
components that make up each category are provided in eCourseware website (opens in new window) where there is also information about how to calculate a weighted grade.

**Summary of Graded Activities:**

Points earned on the assessed activities will be distributed as follows:

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Total Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Quizzes</td>
<td>21%</td>
</tr>
<tr>
<td>Project Quizzes</td>
<td>22%</td>
</tr>
<tr>
<td>Portfolio</td>
<td>7%</td>
</tr>
<tr>
<td>Exams (Midterm 1, 2, and Final)</td>
<td>45%</td>
</tr>
<tr>
<td>Classroom Participation</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Video Quizzes:**

For the flipped classroom to work well it is essential that you come to class prepared just as if going to work. To encourage this preparation, each online lecture will be accompanied by a quiz that is due at 9:00 AM on the specified date. The video quizzes serve these 5 purposes:

1) Encourage you to watch the videos and take notes so you are prepared for the in-class projects
2) Strengthen memory as testing is one of the most effective ways to do so
3) Serve as another form of self-assessment to identify weaknesses / areas to strengthen
4) Encourage you to make more neural connections to the material
5) Practice retrieving information in way that I will expect you to retrieve information in new applications

These quizzes will account for 21% of your overall grade. There are no “make-up” video quizzes, but two quizzes will be dropped when calculating the final grade as part of the PTO policy discussed in greater detail under the section Late Assignments and Leave Policy:

**Pink Slips:**

Coming to class prepared and actively participating is crucial for your success in this course and for you to benefit from the flipped classroom approach. Your group member also deserves to have you come to class prepared so that you can work together effectively.

To encourage a better learning environment and more closely model the real world, if you do not demonstrate a minimum level of fluency on the lecture material you will have to get a Pink Slip before you can complete the respective project.

Lecture Material Fluency is measured by demonstrating a minimum level of competency on the topic that will be applied in class by getting at least 60% correct on the respective video quiz. The projects are set to conditionally release under 1 of 2 conditions: 1) you demonstrate a minimum level of preparation and competency by getting at least 60% correct on the respective video quiz due before class; or 2) you must take a Pink Slip.
Pink Slips are a conditional release feature similar to pink slips one must obtain from the office if she is late or that one may receive on the job if he does not deliver in the workplace. They are administered as a quiz in eCourseware website (opens in new window). As part of the PTO policy discussed in greater detail under the section Late Assignments and Leave Policy:, the first two Pink Slips will not count against you; however, each subsequent Pink Slip will result in a 6 point deduction toward the respective project score. This additional emphasis on preparation will benefit all parties involved.

**Projects:**

The projects are similar to homework assignments and also include additional “managerial questions” and “curve balls” that serve to extend your understanding beyond the textbook to incorporate real world experiences. These projects will be assigned at the beginning of class and in some cases be due at the end of class on the same day. There are no “make up” projects; but two projects will be dropped when calculating the final grade as part of the PTO policy discussed in greater detail under the section Late Assignments and Leave Policy:

**Portfolio:**

The models built during online lectures and group projects must be completed in Excel to encourage your marketability in the job market. While knowing the mechanics of Excel is crucial, it is also critical that you can communicate the results of your analysis. Throughout the semester each group will submit portfolios which contain certain models from the online lectures and projects. The files in each submission will be graded for completeness, correct answers, the quality of the presentation, and accessibility. More information regarding the portfolios and each of the criteria is provided in eCourseware website (opens in new window).

**Exams:**

The tests consist of questions based on the concepts discussed in class and may consist of T/F questions, multiple choice questions, problems, Excel spreadsheets, and model building. In general, there will be no make-up exams. In the event that extraordinary circumstances prevent you from taking the exam at the scheduled time, you must contact the instructor prior to the examination and present documentation explaining the event.

**Attendance:**

This is not an online course; attendance and group work are mandatory! It is also highly recommended that that you take advantage of office hours! While classroom time will still include some lecture time, the bulk of it will be spent on experiential learning activities and group projects to help you Apply and Internalize the material. There are no “make up” projects or “make up” attendance points; participation points will be deducted beginning with the 3rd absence at 1% per absence. The first two absences while tracked are counted as part of the PTO policy discussed in greater detail under the section Late Assignments and Leave Policy:.
Final Course Grades:

<table>
<thead>
<tr>
<th>Cut Off Values</th>
<th>Assigned Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93%</td>
<td>A</td>
</tr>
<tr>
<td>83%</td>
<td>B</td>
</tr>
<tr>
<td>73%</td>
<td>C</td>
</tr>
<tr>
<td>63%</td>
<td>D</td>
</tr>
<tr>
<td>60%</td>
<td>F</td>
</tr>
</tbody>
</table>

All of you have the potential to succeed in this class. However, I do not equate “success” with an “A.” Your success is measured by how much you learn during the course and how well you are able to apply what you have learned in the future. This is distinct from your grade in the course, which is a proxy for your learning. Nevertheless, I must assign to you the grade that you have shown me that you earned on each assignment and at the end of the semester. For me, grades are not personal. They are in no way a reflection of my opinion of you personally. They are simply a rudimentary proxy of your performance.

Because of the responsibility that I have to uphold our collective reputation I have adopted a reasonable grading standard for our class. Therefore, grades in the B to B+ range indicate that you are performing as expected, with grades in the A- to A ranges indicating exceptional performance. Grades below a B- indicate that your performance was not quite up to what I had expected from you. Again, please realize that this is not an indictment of your character or abilities.

Final course grades are earned according to the Final Course Grades table. The cut off values in the table serve as fixed references; there will also be +/- grades assigned, but I reserve the right to be more flexible in determining the exact cut off for the +/-. For example, you can assume the cut off for an A- to be about 90%; however, if there is a larger cluster of students around 89.xx% I may lower the cut off to where there is a clear break between the grades. A more detailed description of each of the assessed activities can be found after the scoring summary table below.

Extra Credit:

There are a few extra credit opportunities in this course. They are provided in eCourseware website (opens in new window) in Content under HELPFUL INFORMATION under Grade; beyond the options that are built into the course there is no other extra credit available. Your final grade will be computed based on your work on the formal/assessed activities previously described in this syllabus.
Course Policies:

Late Assignments and Leave Policy (PTO):

All quizzes, projects, assignments, etc, a.k.a. everything, are due no later than the due dates posted in eCourseware website (opens in new window). There are NO extensions / make up / or other exceptions e.g. partial credit or extended deadlines other than what is explained under Exams. As explained in their respective sections within this document, you are allowed to drop specific graded items to accommodate for both planned and unforeseen circumstances while providing an even playing field for all students.

Many organizations have transitioned from having distinct categories/banks for sick, personal, and vacation leave to a single bank of paid/personal time off (PTO) leave. Assimilating the drop policies for each respective category with a PTO leave policy is empowering for both the students and the teacher. First, each student is now in control to choose how to apply the leave policy to their personal circumstances without narrow restrictions for each category or not having a “qualifying” event in some other category that another student may have qualified for, provides an even playing field for all students. It also simplifies the documentation and subjective judgment burden for the professor as the leave and drop policies are equally available to all students.

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. Note that using a “Solutions Manual” is considered cheating. Should your professor have evidence that using a “Solutions Manual” has occurred, he/she may take steps as described on the campus’ Office of Student Conduct website (opens in new window). 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).

E-MAIL:

Email within the eCourseware system is not monitored and should not be used for this course.

All students are required to maintain and access their University of Memphis (@memphis.edu) email account. You will receive all official course correspondence at this email account. Any inability to receive incoming mail in a timely fashion (e.g., not regularly checking your email, having a “full mailbox” condition, etc.) is the student’s responsibility.

Participation:

To be successful in this course as a student, you must stay active and involved throughout the entire semester. Students are expected participate in all interactive aspects of the course. You should also regularly communicate with the instructor as part of your overall learning experience, check into the course frequently for announcements (usually on the course home page), and actively participate in threaded discussion events (both formal and informal). You should plan on logging into the course at least four times each week.
Final Exam Schedule:
The final exam for this class will be scheduled according to the Registrar’s academic calendar website (opens in new window).

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

Tentative Class Time Schedule:
For a complete semester schedule of readings, activities, and due dates for assignments, please refer to the “Outline and Due Dates” that can be found in eCourseware under each module.

<table>
<thead>
<tr>
<th>Week/Dates</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEEK 1: 1/14 &amp; 1/16</td>
<td>Introduction &amp; What-if Analysis</td>
</tr>
<tr>
<td>WEEK 2: 1/23</td>
<td>Lego</td>
</tr>
<tr>
<td>WEEK 3: 1/28 &amp; 1/30</td>
<td>What-if Analysis &amp; Linear Programming</td>
</tr>
<tr>
<td>WEEK 4: 2/4 &amp; 2/6</td>
<td>Linear Programming</td>
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<tr>
<td>WEEK 5: 2/11 &amp; 2/13</td>
<td>Transshipment Models &amp; Growth Mindset / Review</td>
</tr>
<tr>
<td>WEEK 6: 2/18 &amp; 2/20</td>
<td>Midterm 1 &amp; Linear Regression</td>
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<tr>
<td>WEEK 7: 2/25 &amp; 2/27</td>
<td>Linear Regression &amp; Multiple Regression</td>
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<tr>
<td>WEEK 8:</td>
<td>Spring Break</td>
</tr>
<tr>
<td>WEEK 9: 3/11 &amp; 3/13</td>
<td>Multiple Regression &amp; Model Building / Assign Midterm 2</td>
</tr>
<tr>
<td>WEEK 10: 3/18 &amp; 3/20</td>
<td>Model Building &amp; Simulation</td>
</tr>
<tr>
<td>WEEK 11: 3/25 &amp; 3/27</td>
<td>Simulation &amp; Midterm 2 Question 1</td>
</tr>
<tr>
<td>WEEK 12: 4/1 &amp; 4/3</td>
<td>Pivot Tables</td>
</tr>
<tr>
<td>WEEK 13: 4/8 &amp; 4/10</td>
<td>Forecasting &amp; Midterm 2 Question 2</td>
</tr>
<tr>
<td>WEEK 14: 4/15 &amp; 4/17</td>
<td>Decision Analysis &amp; Midterm 2 Write Ups Evaluation</td>
</tr>
<tr>
<td>WEEK 15: 4/22 &amp; 4/24</td>
<td>Decision Analysis &amp; Review</td>
</tr>
</tbody>
</table>
Suggestions for Improving Your Success in Your College Studies

- **Make a PLAN OF STUDY** for yourself. Decide upon a *set time* of day or week that you can devote to your schoolwork (such as “every Saturday evening” or “Tuesdays and Thursdays from 4pm to 6pm”)
- It may be beneficial to you to post specific appointment times in your personal calendar. Try to schedule your study appointments during the time of day when you are likely to be rested, alert, and not hungry.
- If you get distracted easily, you may need to set up frequent-but-shorter study sessions such as one to two-hour study sessions several times throughout the week as opposed to one long study session on the weekend. Review the previous weeks’ lesson before starting to learn the next lesson; it’s a good way to review and to remind yourself where you left off.
- Ask friends and family members not to disturb you during your study time.
- Have a quiet place where you can go to study, where there won’t be a lot of distractions. You may want to set your phone on “do not disturb” during your study time.
- Sit at a desk in a well-lit area so that you don’t get too sleepy!

Fogelman College Policies

Fogelman College: Learning Outcomes for Your Degree:

The Fogelman College has established the following learning goals for all students successfully completing the BBA degree:

- Graduates will be effective communicators.
- Graduates will demonstrate critical thinking skills.
- Graduates will be knowledgeable about ethical factors in the business environment.
- Graduates will be knowledgeable about the global business environment.
- Graduates will be proficient users of business presentation and analysis technology.

Pre-Requisites/Co-Requisites:

SCMS 2710 or MATH 1530. In addition, students should have Excel skills, a good grasp of basic mathematics, and applied writing skills.

Classroom or Online Behavior:

All participants in the course should be considerate of the other course participants and treat them (as well as their opinions) with respect. The class will operate under the assumption that any and all feedback offered is positive in nature and that the intentions of the person(s) providing feedback are strictly honorable. Insensitivity in this area will not be tolerated. If you have any questions about online communication, you should review the Fogelman College’s Netiquette 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 LiveSafe (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 LiveSafe (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.

FCBE Academic Internship Credit:

In FCBE, all majors offer an academic internship course option as a substitution for a required elective in a student’s major. To apply for academic credit, students must obtain an internship highly related to their major, register prior to the start of their internship and have their internship approved by departmental internship faculty. To review the requirements for applying for academic credit, visit FCBE Internships (opens in new window)