Course Syllabus
MIS 3210 002– Critical Thinking using Analytics
Fall Semester, 2017
Section 004 & 006

Instructor Information:
Name: Dr. Martin Kang
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Office Location: FEC 336
Office Hours: M/W/F 9:00am to 15:00pm (by appointment)

Course Information:
Meeting times:
T/R 9:40am to 11:05am (004)
T/R 5:30pm to 6:55pm (006)
Meeting Location: FCB 373
Meeting Dates: August 28th to December 6th
Credit Hours: 3.0
CRN: 90702

Course Overview:
This is a general introduction to the processes, methods, techniques and tools that organizations use to conduct and manage data analysis projects. The instructional approach emphasizes the use of critical thinking skills to derive new knowledge and to develop actionable business strategies that maximize the value of the organization for all stakeholders.

Course Objectives:
Once you have completed this course, you should be able to demonstrate the following knowledge, skills, & abilities:

- Explain how some project management skills, methods, techniques, and tools are used to manage big data analytics and other types of business projects.
- Conduct specific types of data analyses using these software programs: Microsoft Excel, and Access, and Tableau, and conduct project-management processes using Microsoft Project.
- Use critical thinking and other higher-order thinking skills to analyze business and industry information to derive new knowledge and to develop actionable business strategies.
- Explain the role of and importance of big data analytics in the inquiry process, possess a conceptual understanding of specific big data analytics techniques such as trend analysis, association analysis, and prediction and be familiar with several real-world applications of big data techniques.
Basis for course objectives:
The objectives for this course were formulated by a team of faculty in the BIT department and are based upon a significant amount of input from business executives, industry experts, other FCBE faculty, and business school accreditation guidelines (AACSB). The specific topics covered in this course are based upon the current and projected demand for job skills that employers will need to achieve the strategic goals of their organizations.

Here is a recent article about the huge growth in demand for people with project management skills and big data expertise in several occupational categories. (One notable statistic that was reported in this article is that in 2014, there was a 123.60% jump in demand for Information Technology Project Managers with big data expertise.)

Pre-Requisites/Co-Requisites:
This is an upper-division required course for all FCBE majors. Lower division core courses must be completed before enrollment in this course is permitted.

Fogelman College: Learning Outcomes for Your Degree
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 BBA degree program. BBA Program Outcomes (opens in browser window)

Course Methodology
The instructional methodology of this course will be a combination of PowerPoint presentations and hands-on activities using Microsoft Project, Excel, and Access.

Grading and Evaluation Criteria:
Final Course Grades:
Your final letter grade is based on your overall average. Your overall average is calculated as the sum of all the points you earned on graded assignments divided by the total number of points possible. The letter grade is based on the following schedule:

- Above 90% .............................................................. A
- Above 80% but below 90% ......................................... B
- Above 70% but below 80% ........................................... C
- Above 60% but below 70% ........................................... D
- Below 60% .................................................................. F

Scoring Methodology Used to Determine Course Grade:
Points earned on the assessed activities will be distributed as follows:
3 Homework Project Assignments (1 * 10) + (2 * 60) pts ................................ 130 points
9 Quizzes and 2 Surveys (9 * 10) +(2 * 5) pts ........................................ 100 points
9 Class Activities (9 * 5) pts .................................................................... 45 points
1 Final Exam (1 * 50) pts ................................................................. 50 points

**Total Possible for Semester** ................................................................. **325 points**
**Final Exam Information**
The final exam will be in the classroom during the final exam week. The final exam is 50 multiple choice questions. The first 20 questions are on the project management topics and the last 30 are on business analytics topics. The project management questions are very similar to the questions on Quiz #10. To prepare for the final exam, you may take quiz #10 an unlimited number of times. Once an attempt is submitted, you will be able to view the correct answers. If you make multiple attempts, only your highest score will be recorded in the grade book. The business analysis questions are based on these presentations only: BA #5, #17 - #20.

All quizzes and the final exam are open book / open notes!

**Required Texts (and Related Materials):**

**COMPUTER & SOFTWARE:**
This course requires the use of a computer and specific software programs. To complete some of the assignments, you will need access to a computer that can access specific software programs: Microsoft Project 2016, Microsoft Excel, and Microsoft Access. If you are taking this class online or you just prefer to use your own computer, here are the options for accessing these programs:

- **Microsoft Project 2016** (a project scheduler) is NOT part of the Microsoft Office software suite – both PC and MAC users may access the U of M cloud version of Microsoft Project 2016 by following the instruction here: [Instructions for UofM apps](#)

- **Microsoft Excel** (a spreadsheet program) is part of the Microsoft Office software suite – for both the PC or MAC. U of M students may install Microsoft Office on a PC or MAC by following the instructions here: [GetOffice](#)

- **Microsoft Access** (a database management program) is part of the Microsoft Office software suite – for the PC - but not the MAC. MAC users may access the U of M cloud version of Access by following the instructions here: [Instructions for UofM apps](#)

- **Tableau** (a data visualization program) is not a Microsoft product. There are three ways to access Tableau (either PC or MAC): (1) Install the 14-trial of the DESKTOP version on your PC or MAC, (2) Install the FREE PUBLIC version on your PC or MAC, (3) Use one of the PCs in FCB 373 or 377.
  [Instructions for installing Tableau TRIAL or PUBLIC version](#)

**READING ASSIGNMENTS:**
All the outside reading material for this course is available online. The elearn [Content] page has links to all the weekly reading assignments.
The project management readings are available at: 
https://www.tutorialspoint.com/management_concepts (click the appropriate 
links in the weekly schedule to go to the specific topic pages).

The business analytics readings may be either journal articles or eBook chapters. 
Book chapters are assigned from this text: Behind Every Good Decision: How Anyone 
Can Use Business Analytics to Turn Data into Profitable Insight, By Piyanka Jain and 
Lakshmi Jayaraman. Published by AMACOM, 2015. Links to the eBook chapters are 
available at: 
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<table>
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<th>Course by Week</th>
<th>Topic</th>
<th>Readings Assignments</th>
<th>Homework Project (HW) or Activity (ICA)* or QUIZ*</th>
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| Week 1         | • Review Syllabus  
• View video on How to be an expert learner  
• PM #1: Intro to Project Management  
• PM #2: PM process framework & initiating processes | 1. IntroToPM  
2. PMI.org  
3. SelectingProj  
4. PMmethods | • Quiz #1 (5-pt survey – Select your Learning Strategies) |
| Sept 4th       | • Labor Day – no class! |
| Week 2         | • PM #3: Project Planning Processes  
• PM #4: Planning Processes Cont. / ICA #1  
• PM #5: Using MS Project 2016 to create a project schedule / ICA #2 | 5. RegmtsDefine  
6. WBS  
7. RACI  
8. ActNetwkDiag  
9. IDcriticalPath | • ICA #1: Draw Activity Network Diagram  
• ICA #2: Using MS Project to create a schedule  
• Quiz #2 (PM #1-3 & Reading #1-4) |
| Week 3         | • PM #6: Estimating Project Costs  
• PM #7 Getting Started with HW #1 | 10. GanttChart  
11. EstimatingCosts  
12. EarnedValueMgmt | • HW #1: PM Decision Making  
• Quiz #3 (PM #4-6 & Reading #5-9) |
| Week 4         | • BA #1: Intro to Big Data Analytics  
• BA #2: From Data to Decisions | 13. Pgs10to33ofBAtext | Quiz #4 (BA #1-2 & Reading 12) |
| Week 5         | • BA #3: Initiating Analytics Projects / ICA #3  
• BA #4: Excel Review / ICA #4 | 14. BADIR.pdf  
15. DefiningBusProb.pdf | • ICA #3: BADIR step 1 & 2: Athletic Shoe Store  
• ICA #4: Excel review |
| Week 6         | • BA #5: Database Concepts  
• BA #6: Create a database / ICA #5 | | Quiz #5 (BA #5 - Database  
• ICA #5: Create a database |
| Week 7         | • BA #7: Create PivotTables / ICA #6  
• BA #8: Instructions for HW #2-pt A | | ICA #6: Create PivotTable:  
• HW #2 - Pt A: Create PivotTables |
| Oct 16-17th    | Fall Break Week – No Classes! | | |
| Week 8        | • BA #9: Create Excel Charts & Dashboards / ICA #7  
• BA #10: Instructions for HW #2-ptB | | • ICA #7: Create Excel Charts Dashboard  
• HW #2 - Pt B: Create dashboard |
| Week 9        | • BA #11: Instructions for HW #2-pt C  
• BA #12: Data Visualization  
• BA #13: Using Tableau for Data Visualization / ICA #8 | 16. DataVizWiki.pdf  
17. DesigningDashboards. pdf | • HW #2 - Pt-C: Industry TRE Final Report  
• ICA #8: Using Tableau for Visualization |
| Week 10       | • BA #14A: Instructions for HW #3-pt A  
• BA #14B: Creating a stock price chart | | HW #3 – Pt A: Company Analysis |
| Week 11: | • BA #17: Big Data Technologies  
• BA #15: Instructions for HW #3-pt B | • HW #3 – Pt B: Industry Ar  
• Quiz #6 (BA #17 - Big Data Technologies) |
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| Week 12:      | • BA #18: Data Mining Techniques  
• BA #16: Instructions for HW #3-pt C | 18. Pg 34-48 BAtext | • HW #3 – Pt C: Final Report  
• Quiz #7 (BA #18 – Data M | |
| Week 13:      | • BA #19: Prediction & Classification models /  
ICA #9 |  | • ICA #9: Identifying Predict | |
| Week 14:      | • BA #20: Google Analytics  
• Optional Dashboard & Honors Presentations |  | • Quiz #8 (BA #19 – Predict Classification)  
• Quiz #9 (BA #20 – Google Analytics) | |
| Week 15:      | • Review for final exam  
• Optional Dashboard & Honors Presentations |  | • Quiz #10 (Practice Final)  
• Quiz #11 (5-pt survey – feedback on learning stra | |
|               | • Final Exam 8am to 10am in FCB 373 |  |  | |

* In-class activities and quizzes must be completed in the classroom during the designated class time. Only those students who have received permission to miss class IN ADVANCE will be permitted to make up an assignment. *Quizzes are open-book, open notes.
Professor’s Expectations of Students:

- **Texting and talking on cell phones is not permitted during class time.**
- Laptop computers are permitted in the classroom but should only be used for class-related purposes.
- All homework assignments are individual assignments and each person is expected to create their own files and do their own work. **Collaboration** on homework assignments is cheating. If you turn in another student’s work as your own, you will receive a 0 on that assignment.
- You are expected to turn in your assignments on time. The due dates for assignments are provided on the weekly schedule (below). Five points will be deducted for each day that an assignment is late. Late assignments must be turned in to the *late assignment drop box* on elearn.

Student's Expectations of the Professor:

In my role as your instructor, there are certain things you can expect from me including: well-organized and engaging learning experience, response to emails within two (2) business days, and feedback on all work submitted within 7-10 calendar days.

Course Policies

**E-mail:**

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. It is your responsibility to check your inbox frequently and read all email messages from the course instructor.

**Attendance:**

You are **required** to attend all class meetings and stay for the entire duration of the meeting time. All absences are considered unexcused unless you have PRIOR approval from the instructor and/or you are attending a university-sponsored event. It is your responsibility to make up any coursework that was missed because of an absence. **In-class activities and quizzes must be completed in the classroom during the designated class time. Only those students who have received permission to miss class IN ADVANCE will be permitted to make up an assignment.**

**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).

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).
Late Assignments:
Quizzes will be deactivated on the date and time they are due. Quizzes will not be re-opened for any student unless (1) the student has a valid reason why they could not submit their quiz on time and (2) the student makes a request in person to the instructor to re-open the quiz. (No requests will be approved via email.)

Assignments that are submitted to the dropbox (activities and homework projects) should be uploaded to the dropbox by the due date. The dropbox will accept late submissions for one week beyond the due date, however, the 5 points may be deducted for each day that the assignment is late.

Extra Credit:
Time permitting, students may present their homework project #3 in class for 10 points of extra credit.

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 browser window) page for information about:
- Students with Disabilities
- Tutoring and other Academic Assistance
- Advising Services for Fogelman Students
- Technical Assistance