Course Syllabus  
MIS 7190 – Programming for Business  
Fall Semester, 2015  
3.0 Credit Hours

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Office Hours: Tuesday 2:00 pm – 4:00 pm, Thursday 3:00 pm – 4:00 pm, or by appointment

Course Overview:
Fundamentals of programming for business projects, including Internet-based business applications and object-oriented programming languages. Specifically you will learn how to write programs in R to explore, visualize, and interpret results derived from business data in a systematic and meaningful way. Emphasis will be placed on how, what, and why certain techniques are useful in solving complex problems in a business setting. Much of the in-class time is spent writing programs in R, and performing a variety of data analytics tasks such as data manipulation, interpretation, and presentation of results.

Pre-Requisites/Co-Requisites
MIS 7060 or permission of instructor

Required Texts (and Related Materials)

Location of Course Materials
All course materials are located on the eCourseware website.

Course Objectives
By successfully completing this course, participants will be able to:
- Understand R programming concepts and data analytics techniques and apply them to evaluate various business scenarios and transform problems into actionable items.
• Contribute to business problem solving activities by experiencing first-hand the power of data analysis and R programming language to reveal unexpected patterns and stimulate new perspective and insights.
• Learn to think creatively about linking data, business analytics concepts, and R programming framework with the subject-matter expertise.
• Recognize visual representation methods that increase understanding of complex data.
• Work effectively as a member of a team, including demonstrating collaboration and problem-solving skills.

Fogelman College: Learning Outcomes for Your Degree

This course is designed to help you to meet the overall learning objectives for the MBA 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 program:

• http://www.fcbassessment.net/LearningOutcomes/MBADegreeLearningOutcomes.pdf

Course Methodology

• Instructor presentation of material teaching fundamentals of data analytics and Cran R concepts. There will be extensive class discussion and note-taking is essential.
• In-class interactive activities, discussions, reading assignments, scenarios analysis to practice the lecture material, analytics, and programming techniques and tools.
• Assignment problems to practice the lecture material.
• Exams to test knowledge of the participants on the key analytics and programming concepts covered in the class.
• Project to analyze a business problem and propose alternate solutions that involve the detailed understanding of analytics and programming concepts.

Professor’s Expectations of Students

In general, you should assist the instructor and your fellow classmates in creating a positive, supportive environment for learning by staying engaged in the course. You will learn as much from the collective contributions of your classmates as you will from the instructor. As a group, we will create a positive, playful, and collaborative environment and share each other’s views, insights, and analysis of assigned scenarios, and readings covered in the course.

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. The instructor will be as responsive as possible to requests for phone meetings as well.

Grading and Evaluation Criteria

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.
Final Course Grades

Final course grades are earned according to the following table:

<table>
<thead>
<tr>
<th>Point Range</th>
<th>Assigned Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90.00 - 100.00 Points</td>
<td>A</td>
</tr>
<tr>
<td>80.00 - 89.99 Points</td>
<td>B</td>
</tr>
<tr>
<td>70.00 - 79.99 Points</td>
<td>C</td>
</tr>
<tr>
<td>60.00 – 69.99 Points</td>
<td>D</td>
</tr>
<tr>
<td>Under 60.00 Points</td>
<td>F</td>
</tr>
</tbody>
</table>

Your overall grade for the semester is based on how well you perform on a mixture of formal activities including exams, discussions, and project. A detailed description of each assessed activities can be found after the scoring summary table below.

Summary of Graded Activities

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

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project</td>
<td></td>
</tr>
<tr>
<td>Report</td>
<td>15%</td>
</tr>
<tr>
<td>Presentation</td>
<td>10%</td>
</tr>
<tr>
<td>Assignments</td>
<td>40%</td>
</tr>
<tr>
<td>Instructor and Peer Evaluations</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15%</td>
</tr>
</tbody>
</table>

Assignments

Participants will form teams of their own to do the programing and data analytics assignments. Participants, with complementary skills, will bring dynamic perspective to solve problems in teams. The detailed instructions for each assignment will be provided separately to the participants. The following criteria will be used to grade the assignments:

- Data are explored and analyzed in many different ways
• Calculations are detailed, accurate, and answers are correct
• Rigorous approach is used to solve a specific problem
• Reasoning of assumptions made in the problem solving is clearly listed
• Good coding practices are followed
  o For example code are functional, readable, commented, indented, and error free
• Convincing conclusions are drawn and demonstrate an understanding of investigation results and how to apply it
• Writing style is understandable and organized in explaining investigation results and supporting conclusions

Project

Specific instructions on the project outlines and expectations are provided in a separate document. The project report should be at least 1800 words (not counting the title and reference pages, figures or tables, and appendices). You may use the references, if any, in the library or online. There is no limit on the number of references used; however, make sure the sources are credible. For your information, blogs, vendor sites, and sites like Wikipedia and Dictionary.com are not credible research sources. Do not use them as references.

You need to use in-text citations and a reference section (no footnotes or endnotes in this paper whatsoever; do not use the automated footnote or endnote function in Word). Full citations of all works should be included in the References section. Be careful to properly attribute materials found in literature sources or on the Internet. Direct quotes from references should be kept to a minimum. Although your writing ability is not the primary focus of this course, your ability to communicate is essential to your future business success. Pay close attention to what you're writing. It may be wise to have another person read your work before submitting it for grading.

The paper will be graded according to the following criteria:

• Exhibits convincing range and quality of knowledge, having done appropriate research
• Identifies and thoughtfully analyzes and evaluates major points of view
• Convincing conclusions are drawn and demonstrate an understanding of investigation results and how to apply it
• Writing style is understandable and organized in explaining research investigation results and supporting conclusions

Presentation

Team members work collaboratively to create Power Point presentations to be shown during the team's presentations for the final project. Please plan on posting the team’s PowerPoint presentation by the day listed on the schedule section. Project presentation should be given in 15-20 minutes. Every presentation will be followed by 5-10 minutes of a question/answer session. Include your team number and members’ names in the file name of the PowerPoint. Team
presentations will be preloaded on a computer to save in-class time. Each team member must participate in the oral presentation.

Team presentations will be graded according to the following criteria:

- Presentation organization and flow
- Completeness of presentation
- Length of presentation falls within the specified time minute range
- Identified and thoughtfully analyzes major point of view
- Convincing conclusions are drawn and an understanding of investigation results is demonstrated

**Exams**

The midterm (10%) and the cumulative final exam (15%) will both be in-class. The objective of exams is to test participants’ grasp on the key concepts covered in the class; understanding of the programming concepts and analytics, assignments, text readings, and hand-outs. Absence from any scheduled exam will result in an exam grade of zero unless arrangements have been made with the instructor prior to the exam date.

**Instructor and Peer Evaluations**

Peer and instructor evaluation of participant participation will be conducted throughout the course. As part of the peer evaluation, each participant will rate the degree to which each member of the team fulfilled his/her responsibilities in completing the project and assignments. These ratings should reflect each individual’s level of participation and effort and sense of responsibility, not his or her academic ability.

Instructor evaluation of participant will be conducted according to the following criteria:

- Well prepared in advance
- Actively contributes to discussions and asks questions
- Volunteers willingly and carries own share of the group’s responsibilities
- Adheres to the in-class computer/phone usage policy

**Name Card**

Please use your name card in every class. Not only does it help your instructor in identifying who you are but it also aids fellow participants and helps in making classroom discussions more interactive.
Course Topics

- Introduction to Programming and Business Analytics
- Introduction to RStudio and Basic R Operations
- Introduction to Data Analytics
- Cran R Data Structure
- Data Exploration, Summarization, and Visualization
- Introduction to Functions
- Flow Control and R Scripts
- Debugging, Best practices, and Documentation

List of Formal Assessed Activities

For a complete description of the assessed activities for the semester, please refer to the “List of Assessed Activities” page that can be found in the online course area under “Getting Started”.

Schedule of Activities

For a complete semester schedule of readings, activities, and due dates for assignments, please refer to the “Semester Calendar” that can be found in the online course area under “Getting Started”.

Final Exam Schedule

The final exam for this class will be scheduled according to the Registrar’s academic calendar website.

Course Policies

E-MAIL

All participants 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 participant’s responsibility.

Attendance

All participants are expected to attend classes regularly and promptly. However, formal attendance will not be taken. When you miss classes, your grades will suffer because you will miss important information and classroom interaction/discussion. Students who miss classes will be held responsible for all the in-class course content. Students have the responsibility to take all scheduled exams and turn in all assignments by the announced date and time. The instructor reserves the right to deduct up to 50% for late assignments.
Students who miss in-class sessions are responsible for completing all in-class course work with a 50 percent grade reduction.

An absence from an assignment/in-class coursework shall be considered “excused” if it occurs because of any of the following situations (valid documentation must be submitted for proof) and the instructor was contacted prior to the due date:

- Hospitalization of the participant or an immediate family member due to illness or accident.
- Death in the participant’s immediate family (ex., spouse, parents, guardians, siblings, children).
- Summons of the participant to appear for Jury Duty or before a court.
- Any other excuse that has been approved by the course coordinator.

The absentee participant shall submit documents supporting the above claims (hospital admission form, death certificate, or court subpoena, etc.) to the course coordinator. Upon satisfactory verification, the participant shall be allowed to take a make-up quiz/assignment or paper/essay in lieu of missed classroom interaction/discussion. The make-up quiz may be in any form (term paper, essay, etc.) per the discretion of the instructor.

For participants receiving federal participant loans, any lack of engagement in the course may be treated as non-attendance and potentially impact access to student loans in the future.

**Adding / Dropping**

If you have questions about adding or dropping classes, please refer to this page on the Registrar’s website.

**Academic Integrity**

Plagiarism is academic misconduct that will result in a grade of zero on the plagiarized assignment. Your work may be reviewed using the online plagiarism monitoring software, Turnitin.com. Also, please note that all documents submitted to Turnitin.com are added to their database of papers that is used to screen future assignments for plagiarism. 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 may take steps as described on the campus’ Office of Student Conduct website. If you have any questions about academic integrity or plagiarism, you are strongly encouraged to review the Fogelman College’s Website on Academic Integrity.

**Participation**

To be successful in this course as a participant, 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 discussion
events (both formal and informal). You should plan on logging into the course at least three times each week.

It is important you actively participate in the classroom discussions as well. Classroom discussions help clarify the readings and lectures and provide additional insights. The quality, not quantity, of the discussion depends heavily on you and your preparation of the assigned problems and suggested readings. You are expected to respond or share information, when asked to do so, and ask intelligent questions to your fellow participants through classroom discussions.

**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.

In-class computer usage should be related to the material being covered in class. The use of computer or cell phone for general Internet browsing, text-messaging, Facebooking, Twittering, social networking during class is extremely distracting to both the instructor and nearby participants. Please be sensitive and respectful of your classmates and instructor. If you must use any of the above communication means during the class session, please feel free to momentarily step out of the room or wait until the next break to do so.

If you have any questions about online communication, you should review the Fogelman College’s Netiquette website.

**Late Assignments**

Assignments and projects may be submitted anytime up to and including the date due. Please review all information in this syllabus and related “Course Activity Summary / Schedule” for all due dates for formally assessed work. If your work is not submitted on time, the instructor reserves the option to deduct up to 50% of the grade value for tardiness depending upon the circumstances and appropriate communication between the participant and the instructor. Late work will be accepted only up to five days after the deadline.

**Extra Credit**

There is no extra credit offered in this course. Your final grade will be computed based on your work on the formal/assessed activities previously described in this syllabus.

**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, an emergency alert text
messaging service to participants, 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. Click here for information on TigerText.

**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 participants of such changes during in-class session and by individual email communication.

**Student Services**

Please access the FCBE Student Services page for information about:

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