Instructor: Fatou Diouf, Ph.D.
Office: ENT 143
Phone: 703-993-6026
E-mail: fdiouf@gmu.edu
Virtual office hours: via Collaborate Ultra in blackboard by request. Email to schedule first.

Prerequisites:
Essential and expected knowledge: Proficiency in elementary algebra and geometry. Familiarity with recent versions of MS Word, PowerPoint, and Excel. Deficiencies in any of these areas should be self-remediated.

University Catalog Description:
This course introduces the concept of business analytics and why businesses use analytics to create and sustain competitive advantage. Topics include data types, summarization and graphical display of data, application of basic probability rules, and probability distributions. The course also introduces students to fundamentals of spreadsheets and their use in business applications.

Undergraduate program learning goals:
1. Our students will demonstrate an understanding of the social, global, ethical, and legal contexts of business and will be able to reflect on the role of the individual in business.
2. Our students will demonstrate an understanding of and the ability to apply knowledge of professional skills necessary for success in business including effective business writing.
3. Our students will demonstrate technical and analytic skills appropriate for success in business.
4. Our students will demonstrate an understanding of and the ability to apply knowledge of core business disciplines including accounting, finance, information systems, management, marketing, and operations management.
5. Our students will demonstrate knowledge and skills appropriate for specialization in their majors.
6. Our students will demonstrate an understanding of how research in the business disciplines contributes to knowledge and how such research is conducted.
Sequence Course Objectives for both BUS210 and BUS 310:
- Understand how managers use business analytics to formulate and solve business problems
- Prepare to be a strategic business partner in an organization
- Think critically about whether and how data can improve business performance, create opportunities, and/or create risks

Additional Specific Course Objectives for BUS 210
- Understand the processes needed to develop, obtain, and report business data
- Use the science of probability and uncertainty to make business decisions
- Gain a foundation of data analytics skills using technology and Excel

Course Topics:
1. Introduction to Business Analytics and Data
   a) Descriptive, Predictive, and Prescriptive Analytics
   b) Data types
   c) Data presentation
   d) Data summarization
   e) Getting the Right Data
2. Probability, Uncertainty, and Decision Making
   a) Probability
   b) Discrete random variables
   c) Continuous random variables
3. Visualization of Data and Descriptive Analytics using Excel
   a) Business spreadsheets
   b) Graphing and visualizing data
   c) Functions
      a. Relative and absolute references
      b. Using formulas involving arithmetic operators +, -, *, and /
      c. Using parentheses and percentage calculations
      d. Numbering formats, e.g., currency, accounting, comma, percent, etc.
      e. Copy formulas and filling neighboring ranges with data and data series
      f. Testing conditions (involving =, <, >, <=, >=, AND, OR, etc.)
      g. “IF” statements
      h. Using financial functions
   d) Working with data in tables
      i. Sorting, filtering etc.
      ii. Grouping/separating data in a table, generating subtotals, creating summaries
      iii. Designing, building, using, and adding to/modifying PivotTables
   e) Business modeling
      a. What-If Analysis using Goal Seek and Data Tables
      b. Pivot Table and Pivot Chart for the data analysis
      c. Excel Table for filtering data
Approach to Learning:
This course examines the use of business analytics for understanding and analyzing business problems and for supporting business decision-making. It is geared for the business professional engaged in decision making or decision support. The emphasis is on business applications, and not mathematics. Students will possess an adequate level of proficiency in and comfort with spreadsheet software. The format will be lectures and hands-on exposure to data analytics tools, including complex Excel options. Discussions and questions are highly encouraged.

Required Texts and Learning Materials:
- **Business Analytics, Methods, Models, and Decisions, 3rd Ed.,** by James R. Evans, Pearson Higher Education, 2020
  - Mylab is mandatory for this course. Purchasing Mylab will give you access to the e-book.
    - (MyLab with e-Book)
    - ISBN: 9780135834893
    - Direct from Website Price: $99.99 Retail
  - Instructions to purchase the access to Mylab are on Blackboard
  - This will also be the textbook for BUS 310 in the following semester.

Computer/Software/Email:
Access to the internet and a computer is required. The course material will be online in our Blackboard course. Communication will be via Blackboard and/or your GMU e-mail only. I will only respond to gmu.edu e-mails and will not respond to e-mails written on a private account.

The **PC version** of Microsoft Excel is **required** for the course. The newest Microsoft Excel is available to download for GMU students through MasonLive account. If you have a Mac computer, you **MUST** have a dual-booting or virtual machine to run the Microsoft Excel program correctly. It is the student’s responsibility to make sure the laptop to meet the required standards. Refer to the School of Business laptop policy at [https://business.gmu.edu/blog/buzz/2020/04/20/updated-school-of-business-laptop-policy/](https://business.gmu.edu/blog/buzz/2020/04/20/updated-school-of-business-laptop-policy/)

Methods of Student Evaluation:
Students are evaluated based on homework, quizzes, case studies, exams, and discussion boards.

**Grading**
- Discussion boards (5 forums @ 10 points each – 50pts) 12.5%
- Homework assignments (11 HWs @ 10 points each – 110 pts) 27.5%
- Quizzes (6 quizzes -50 pts) 12.5%
5 Case studies (5 cases @ 10 points each- 50 points) 12.5%
Exams (2 exams – 140 points total-) 35%
All assignments will total up to 400 points.

Course Grade

1. Disputes about a grade on assignments/exams/quizzes must be submitted in writing within a week after the grade has been posted.
3. The final letter grade is assigned objectively and strictly according to the WEIGHTED average of the numerical scores of all exams, quizzes, and assignments.
4. Final course letter grade assignments:

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<thead>
<tr>
<th>COURSE AVERAGE (%)</th>
<th>COURSE GRADE</th>
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<th>COURSE GRADE</th>
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<tbody>
<tr>
<td>97.00 to 100</td>
<td>A+</td>
<td>80.00 to 82.99</td>
<td>B-</td>
</tr>
<tr>
<td>93.00 to 96.99</td>
<td>A</td>
<td>77.00 to 79.99</td>
<td>C+</td>
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<tr>
<td>90.00 to 92.99</td>
<td>A-</td>
<td>70.00 to 76.99</td>
<td>C</td>
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<tr>
<td>87.00 to 89.99</td>
<td>B+</td>
<td>60.00 to 69.99</td>
<td>D</td>
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<tr>
<td>83.00 to 86.99</td>
<td>B</td>
<td>0 to 59.99</td>
<td>F</td>
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Assignment Descriptions: Due time 11.55pm

Tests: Exams & Quizzes
Exams & Quizzes will be available on the Blackboard course page via Respondus Lockdown Browser. A webcam is required. Instructions to download the browser are available on Blackboard. It is your responsibility to check your settings before taking the exam in order to avoid any technical hardship during the test.
The tests will be available a specific date only. No make-up tests will be given except in Documented Emergency. If you are not available on the test date, let me know ASAP to arrange for the make up. Each test will involve a mix of mechanical skills and conceptual reasoning. The exam format will be a mix of multiple choice questions, T/F questions and Excel problems. The best possible preparation is completion of assigned homework, quizzes, asking questions and helping other students on the discussion board.
For every chapter you read, there is at least a quiz in Blackboard. All quizzes must be taken by a certain due date. Due dates are posted on Blackboard. Late submissions will receive a grade of 0.

Homework assignments:

Students are expected to read relevant sections of the textbook prior to completing assignments. The Homework assignments are available on Mylab, in a multiple-choice questions format. For most homework assignments, you will need to work in Excel. Late assignments will not be accepted.
Case Studies:

At the end of each module, there is a case study pertaining to the specific module. You are required to read the case description and answer the questions. A summary of your analysis, findings and recommendations will also be required. You will need to upload your Excel spreadsheet that shows your work as well as a word document showing a summary report in order to receive a grade. All assignments, including Exams & quizzes are due at 11.55pm on the specific dates posted on Blackboard. Late assignments will not be accepted. If you get stuck at any point, ask a question on the discussion board.

Discussion Boards:

For every discussion board, you are required to make your initial post addressing the challenges or questions in the module by 11:55 PM on Wednesday and reply to at least one classmate by 11:55 PM on Sunday. Your participation will be graded based on the quality of your initial post (relevant to the content, reference to reading materials, proper grammar) and replies to your classmates.

Disability:

All academic accommodations due to disability must be arranged through the Office of Disability Services (ODS). If you are a student with a disability and you require academic accommodations, please contact ODS at 703-993-2474.

Working in Excel might be a challenge for blind students, so additional accommodations will be needed for this course. Please reach out the Office of Disability Services and the instructor right away as you might need a partner to work on the homework assignments and special exam accommodations.
### Course SCHEDULE: Summer 2020

**Due Time : 11.55pm**

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Modules</th>
<th>Assignments</th>
<th>Due Dates</th>
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</thead>
</table>
| Week 1 | Module 1 Introduction to Business Analytics | • Introduction  
• Read Chapter 1  
• Watch the videos  
• Graded Case Study 1: Performance Lawn Equipment  
• Graded HW1  
• Discussion Board Post & Replies (Module 1) | Due Date: June 7 |
| Week 2 | Module 2 Database Analytics: Tables, Sorting & Filtering  
Logical & Lookup functions | • Read Chapter 2  
• Watch the videos  
• Graded HW2  
• Graded HW3  
• Chapter Quiz1 | Due Date: June 14 |
| Week 3 | Module 2 Database Analytics: PivotTables | • Read Chapter 2  
• Watch the videos  
• Graded HW4  
• Graded Case Study 2- People’s Choice Bank  
• Discussion Board Post & Replies (Module 2) | Due Date: June 21 |
| Week 4 | Module 3 Visualization | • Read Chapter 3  
• Watch the videos  
• Graded HW5  
• Graded Case Study 3: Performance Lawn Equipment  
• Discussion Board Post & Replies (Module 3) | Due Date: June 28 |
| Week 5 | Module 4 Descriptive Statistics: Metrics, Frequency distributions & Histogram | • Read Chapter 4  
• Watch the videos  
• Graded HW6  
• Graded Chapter Quiz2  
• Graded HW7 | Due Date: July 5 |
<table>
<thead>
<tr>
<th>Week 6</th>
<th>Measures of Central Tendency, Variations &amp; Association</th>
<th>Graded Chapter Quiz3</th>
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<tbody>
<tr>
<td><strong>Module 4</strong></td>
<td>Descriptive Statistics:</td>
<td>Read Chapter 4</td>
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<tr>
<td></td>
<td>Shape &amp; Outliers</td>
<td>Watch the videos</td>
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<tr>
<td><strong>Module 5</strong></td>
<td>Probability and Probability Distribution:</td>
<td>Graded HW8</td>
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<td></td>
<td>Basic Probability</td>
<td>Graded Case Study 4: Performance Lawn Equipment</td>
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<td>Discussion Board Post &amp; Replies (Module 4)</td>
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<td><strong>Due Date:</strong> July 12</td>
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<tr>
<th>Week 7</th>
<th>Module 5 Probability and Probability Distribution:</th>
<th>Read Chapter 5</th>
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<tbody>
<tr>
<td><strong>Module 5</strong></td>
<td>Discrete Probability Distributions - Binomial &amp; Poisson</td>
<td>Watch the videos</td>
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<td>Continuous Probability Distributions - Normal Distribution</td>
<td>Graded HW9</td>
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<td>Graded Chapter Quiz4</td>
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<td><strong>Due Date:</strong> July 21</td>
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<tr>
<th>Week 8</th>
<th>Catch up &amp; Review</th>
<th>Prepare for the final exam: review everything</th>
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<tr>
<td><strong>Final Exam</strong></td>
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<tr>
<td><strong>Due Date:</strong> July 25</td>
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**Course Policies**

**Instructor-Student Communication:** I will respond to your emails within 24 hours on weekdays. Before sending an email, please check the following (available on your Blackboard course menu) unless the email is of a personal nature:

1. Syllabus
2. On-demand Blackboard videos on how to use Blackboard features, and Technical Requirements.

Blackboard Login Instructions

Access to MyMason and GMU email are required to participate successfully in this course. Please make sure to update your computer and prepare yourself to begin using the online format BEFORE the first day of class. Check the IT Support Center website. Navigate to the Student Support page for help and information about Blackboard. In the menu bar to the left you will find all the tools you need to become familiar with this course. Take time to learn each. Make sure you run a system check a few days before class. Become familiar with the attributes of Blackboard and online learning.

Technology Requirements

**Software:** Many courses use Blackboard as the learning management system. You will need a browser and operating system that are listed compatible or certified with the Blackboard version available on the myMason Portal. See supported browsers and operating systems. Log in to myMason to access your registered courses. Some courses may use other learning management systems. Check the syllabus or contact the instructor for details. Online courses typically use Acrobat Reader, Flash, Java, and Windows Media Player, QuickTime and/or Real Media Player. Your computer should be capable of running current versions of those applications. Also, make sure your computer is protected from viruses by downloading the latest version of Symantec Endpoint Protection/Anti-Virus software for free here.

Note: If you are using an employer-provided computer or corporate office for class attendance, please verify with your systems administrators that you will be able to install the necessary applications and that system or corporate firewalls do not block access to any sites or media types.

University Policies and Resources

a. **Academic Honesty:** George Mason University's Honor Code requires all members of this community to maintain the highest standards of academic honesty and integrity. Student members of the George Mason University community pledge not to cheat, plagiarize, steal, and/or lie in matters related to academic work. All violations of the Honor Code will be reported to the Honor Committee. You are expected to be familiar with and abide by the University's Honor Code. The Code can be found here. It is your responsibility to see me if you have questions about these policies. The School of Business maintains own Honor Code Policies. Please review them in the end of syllabus.

b. **Students must follow the university policy for Responsible Use of Computing**

c. **Administrative information**

d. **Student services:** The University provides range of services to help you succeed academically and you should make use of these if you think they could benefit you. I also invite you to speak to me (the earlier the better).

e. **Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly.
All communication from the university, college, school, and program will be sent to students solely through their Mason email account.

f. **The George Mason University Counseling and Psychological Services (CAPS)** staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students’ personal experience and academic performance. Counseling Center: Student Union I, Room 364, 703-993-2380. Web-site [here](#).

g. Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester.

h. **The George Mason University Writing Center** staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing. University Writing Center: Robinson Hall Room A114, 703-993-1200. The writing center includes assistance for students for whom English is a second language.

i. **Diversity:** George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth.
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<thead>
<tr>
<th>Type of Violation</th>
<th>First Offense</th>
<th>Second Offense</th>
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<tbody>
<tr>
<td>Plagiarism</td>
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<tr>
<td>1. Failure to cite/attribute sources</td>
<td>A 10% reduction in the final course grade; referral to the Writing Center; and Academic Integrity Seminar completion</td>
<td>An F in the class; referral to the Writing Center; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension or expulsion</td>
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<tr>
<td>2. Representing someone else’s work as the student’s own (e.g., copying and pasting)</td>
<td>An F in the class; referral to the Writing Center; and Academic Integrity Seminar completion</td>
<td>An F in the class; referral to the Writing Center; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension or expulsion</td>
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<tr>
<td>Cheating</td>
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<tr>
<td>1. On a minor assignment (e.g., homework, quizzes)</td>
<td>A 10% reduction in the final course grade; and Academic Integrity Seminar completion</td>
<td>An F in the class; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension</td>
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<tr>
<td>2. Cheating on a major assignment or exam, submitting course work from another course as original work</td>
<td>An F in the class; and Academic Integrity Seminar completion</td>
<td>An F in the class; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension</td>
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<tr>
<td>Lying (e.g., providing fraudulent excuse documents, falsifying data)</td>
<td>An F in the class; and Academic Integrity Seminar completion</td>
<td>An F in the class; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension</td>
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<tr>
<td>Egregious Violation (e.g., stealing an exam; submitting coursework from another class as original work across multiple courses; lying to an employer about academic performance)</td>
<td>An F in the Class; Academic Integrity Seminar completion; termination from the School of Business; and at expulsion</td>
<td>An F in the Class; Academic Integrity Seminar completion; termination from the School of Business; and expulsion</td>
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<td>false identification or posing as another, in person or online</td>
<td>least one semester suspension</td>
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Note: The Academic Integrity Seminar used by Office of Academic Integrity costs $100.
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<td>Cheating</td>
<td>First Offense: An F in the class; and Academic Integrity Seminar completion</td>
<td>Second Offense: An F in the class, Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension or expulsion</td>
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<td>Lying (e.g., providing fraudulent excuse documents, falsifying data)</td>
<td>First Offense: An F in the class; and Academic Integrity Seminar completion, and at least one semester suspension</td>
<td>Second Offense: An F in the class; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension or expulsion</td>
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<td>Egregious Violation (e.g., stealing an exam; submitting coursework from another class as original work across multiple courses; lying to an employer about academic performance, false identification or posing as another, in person or online)</td>
<td>First Offense: An F in the class, Academic Integrity Seminar completion; termination from the School of Business; and at least one year suspension</td>
<td>Second Offense: An F in the class; Academic Integrity Seminar completion; termination from the School of Business; and expulsion</td>
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**UG-Non Freshman Students (including transfer students)**

**Approved May 2016**