



School of Business

## BUS 210: Business Analytics I

Fall 2023 Syllabus | 3 credits

Tuesday and Thursday (4:30-5:45 or 6:00-7:15)

Room: G105

**Instructor: Yaman O. Erzurumlu**

**Office: 627**

**Phone: 5132**

**E-mail: [yerzurum@gmu.edu](mailto:yerzurum@gmu.edu)**

**Office hours: TR 15.00 – 15.55**

### 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. Interpret quantitative information (i.e., formulas, graphs, tables, models, and schematics) and draw inferences from them.
2. Formulate a given problem quantitatively and use appropriate arithmetical, algebraic, and/or statistical methods to solve the problem.
3. Evaluate logical arguments using quantitative reasoning.
4. Communicate and present quantitative results effectively.
5. 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.

6. 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.
7. Our students will demonstrate technical and analytic skills appropriate for success in business.
8. 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.
9. Our students will demonstrate knowledge and skills appropriate for specialization in their majors.
10. 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, 3<sup>rd</sup> Ed.**, by James R. Evans, Pearson Higher Education, 2020
- **ISBN with Mylab:** 9781292339061
  - This will also be the textbook for BUS 310 in the following semester.
  - A current textbook is required for the course, ebook.
  - Example files you are required to download for class:  
[https://media.pearsoncmg.com/ph/esm/esm\\_evans\\_eba3e\\_20/cw/eba3e\\_companion\\_website.html](https://media.pearsoncmg.com/ph/esm/esm_evans_eba3e_20/cw/eba3e_companion_website.html)

## Computer/Software/Email

Access to the internet and a computer is required. Many of 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.

In correspondence/communication students will be required to:

- a) Be professional and respectful in correspondence

- b) Use proper email etiquette, including an introduction, your name, course and section information.
- c) Make reasonable requests of the instructor. I will be happy to clarify course material and answer legitimate questions; however, please exhaust other information sources (e.g., syllabus, Blackboard) for answering your question before contacting me and remember, “Poor planning on your part does not constitute an emergency on my part”.

Students who e-mail me Monday - Thursday can ordinarily expect a response within 24 hours. Students who e-mail after 4 PM on Friday or over the weekend can ordinarily expect a response by noon on the following Monday. **Proper email completion allows for quick email responses.**

- **You are required to bring a laptop to class with MS Excel.**

The PC version of Microsoft Excel is required for the course. The latest version of Microsoft Excel is available for download for GMU students through your MasonLive account. It is the student’s responsibility to make sure the laptop to meet the required standards. **Use of other operating systems, are at your own risk, and are discouraged.**

**Refer to the School of Business laptop policy at**

<https://business.gmu.edu/blog/buzz/2021/05/03/school-of-business-minimum-computing-requirement-for-the-2021-2022-academic-year/>

## Methods of Student Evaluation

Students are evaluated based on homework, quizzes, case studies, exams, and class activities

## Grading

Homework assignments,	17%
Case studies,	17%
Participation	6%
Exam1	20%
Exam2	20%
Final Exam	20%

## Course Grade

1. Students must be officially registered in this section to receive a grade. It is the sole responsibility of the student to verify their own registration status. Specifically, you will not receive a grade if your name does not appear on the official class list. Registration problems should be directed to either the School of Business Academic Advisors or the Registrar’s

Office.

2. 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:

COURSE AVERAGE (%)	COURSE GRADE	COURSE AVERAGE(%)	COURSE GRADE
97.00 to 100	A+	80.00 to 82.99	B-
93.00 to 96.99	A	77.00 to 79.99	C+
90.00 to 92.99	A-	70.00 to 76.99	C
87.00 to 89.99	B+	60.00 to 69.99	D
83.00 to 86.99	B	0 to 59.99	F

To promote fairness to all students, final scores are non-negotiable and will not be rounded up.

When turning in ANY assignment, you cannot copy another student's response or submit somebody else's work as your own. You are encouraged to work together through the discussion board forums. However, make sure all responses are written in your own words and that every file submitted is your own file created by you.

George Mason University takes violations of the Honor Code seriously. You should take a moment to look at the last two pages of the syllabus to see the School of Business' sanctions for violations. Options for a "slap on the wrist" or a "warning" do not exist. The sanctions for a first offense are very serious for all class submissions.

## Assignments Descriptions

### Exams

Exam dates are provided in the schedule. No make-up exams will be given. Each exam will involve a mix of mechanical skills and conceptual reasoning. The best possible preparation is regular **attendance and completion of assigned homework and reading**.

### Homework, Quizzes & Class work:

All Homework assignments will be **due Sunday 11:59pm to Blackboard** of the relevant class week. Students are expected to read relevant sections of the textbook prior to

attending class. Written homework, quizzes and case studies will be graded. Additional due dates will be given in class and will be posted on Blackboard. **Late assignments will get half the grade.** Quizzes and class work are given at the discretion of the instructor and frequently reflect material that has recently been discussed in class. **No extra assignment will be given.**

#### **Case Studies:**

At the end of each module, there is a case study pertaining to the topics discussed in that module.

Chapter 1: Performance Lawn Equipment

Chapter 2: People's Choice Bank

Chapter 3: Performance Lawn Equipment

Chapter 4: Performance Lawn Equipment

Chapter 5: Performance Lawn Equipment

You are required to read the case description, follow the instructions provided on Blackboard and answer the questions. A summary of your analysis, findings and recommendations will also be required.

To receive a grade, you must upload the Excel spreadsheet that shows your work as well as a word document showing a summary report of your findings. The word document should be written in a professional manner.

#### **Attendance / On Time Arrival:**

Class attendance is essential part of learning for this course. On Time Arrival is required for this course. If you have to miss any lectures, you are responsible for obtaining any information given in the class.

**CELL PHONES MUST BE TURNED OFF DURING CLASS**

**Note: DISRUPTIVE BEHAVIOR WILL NOT BE TOLERATED**

#### **Discussion Boards / Participation Grade:**

For every discussion board, you are required to make your initial post addressing the challenges or questions in the module by 11:59 PM on Wednesday and reply to at least one classmate by 11:59 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.

If you need help from the instructor, utilize the "Ask your instructor" discussion forum.

Your engagement in the classroom will also count towards your participation grade.

## **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.

## Academic Integrity

The integrity of the University community is affected by the individual choices made by each of us. Mason has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct.

## Diversity

The School of Business, an intentionally inclusive community, promotes and maintains an equitable and just work and learning environment. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability.

## Anti-racism

As a member of the George Mason University community, the School of Business plays an integral role in building an educational environment that is committed to anti-racism and inclusive excellence. An anti-racist approach to higher education acknowledges the ways that individual, interpersonal, institutional, and structural manifestations of racism against Black individuals and other people of color contribute to inequality and injustice in our classrooms, on our campuses, and in our communities, and it strives to provide our community members with resources to interrupt cycles of racism so as to cultivate a more equitable, inclusive, and just environment for all of our students, staff, faculty, alumni, and friends, regardless of racial background.

To be anti-racist means:

- To make constant, conscious decisions to interrupt racism and cultivate equity, inclusion, and justice for people of all racial backgrounds, and in particular those

from Black communities and other communities of color, who are most likely to bear the direct and indirect costs of systems of white supremacy;

- To interrogate histories of white supremacy and white-dominant culture, and to examine the ways in which these histories have impacted our individual beliefs, our interpersonal relationships, our institutional and structural policies and processes, and our entire society;
- To make a commitment to being responsible for our own relationships to, and actions within, systems of white supremacy; and
- To cultivate a practice of self-awareness and self-reflection that allows us to critically evaluate our own role in upholding white supremacy and identify the ways we can interrupt cycles of racism at the individual, interpersonal, institutional, and structural levels.

We believe that the work of anti-racism starts with each individual, and that in cultivating an anti-racist approach to research, scholarship, and practice, our students will build a skillset rooted in principles of equity, inclusion, and justice that they will carry with them throughout their lives.

## Gender identity and Pronoun Use

If you wish, please share your name and gender pronouns with me and how best to address you via email.

## Safe return to Campus

All students taking courses with a face-to-face component are required to take Safe Return to Campus Training prior to visiting campus. Training is available in Blackboard (<https://mymason.gmu.edu>). Students are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage ([www2.gmu.edu/safe-return-plan](http://www2.gmu.edu/safe-return-plan)). Similarly, all students must also complete the Mason COVID Health Check daily, seven days a week. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. Only students who receive a "green" notification are permitted to attend courses with a face-to-face component. If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing. Faculty are allowed to ask you to show them that you have received a Green email and are thereby permitted to be in class.

## Campus closure

If the campus closes or class is canceled due to weather or other concern, students should check Blackboard for updates on how to continue learning and information about any changes to events or assignments.





## Tentative Course SCHEDULE: Fall 2023

Expect to work 7-10 hours per week on assignments for this course.

Unless otherwise stated, all assignments are due by the end of the week in which they are assigned. For the purposes of this course, a week is defined as **beginning at 12:01 am each Monday EST, and ending at 11:59 pm on the following Sunday EST.**

If you have a question or concern or encounter a problem about an assignment, please contact me immediately so we can discuss and work out a resolution.

**THIS SCHEDULE MAY CHANGE. REVISIONS WILL BE POSTED ON  
BLACKBOARD**

Weeks	Learning Modules	Assignments
<b>Week 1</b> 08/22-08/24	<b>Chapter 1: Introduction to Business Analytics</b>	Chapter 1: Performance Lawn Equipment Homework 1
<b>Week 2</b> 08/29-09/31	<b>Chapter 2: Database Analytics</b>	
<b>Week 3</b> 09/05-09/07	Chapter 2 <i>cont.</i>	Chapter 2: People's Choice Bank Homework 2
<b>Week 4</b> 09/12-09/14	<b>Chapter 3: Visualization</b>	
<b>Week 5</b> 09/19-09/21	Chapter 3 <i>cont</i>	Chapter 3: Performance Lawn Equipment
<b>Week 6</b> 09/26-9/28	Chapter 3 <i>cont.</i> <b>9/28 Harvest Moon Festival No class</b>	Homework 3 <b>Midterm 1 (9/26)</b>
<b>Week 7</b> 10/03-10/05	<b>10/03 National Foundation Day No class</b> <b>Going over Mid Term Questions</b>	
<b>Week 8</b> 10/10-10/12	<b>Chapter 4: Descriptive Statistics</b>	

<b>Week 9</b> 10/17-10/19	Chapter 4 <i>cont.</i>	
<b>Week 10</b> 10/24-10/26	Chapter 4 <i>cont.</i>	Chapter 4: Performance Lawn Equipment Homework 4
<b>Week 11</b> 10/31-11/02	Going over Midterm Questions (11/02)	<b>Midterm 2 (10/31)</b>
<b>Week 12</b> 11/07-11/09	<b>Chapter 5: Probability and Probability Distributions</b>	
<b>Week 13</b> 11/14-11/16	Chapter 5 <i>cont.</i>	
<b>Week 14</b> 11/21-11/23	Chapter 5 <i>cont.</i>	
<b>Week 15</b> 11/28-11/30	Chapter 5 <i>cont.</i>	Chapter 5: Performance Lawn Equipment Homework 5
<b>Final Exam</b>	4:30 – 5:45 section is on Tuesday, December 7 <sup>th</sup> at 4:00 – 6:45 pm	6:00 – 7:15 section is on Tuesday, December 7 <sup>th</sup> at 7:30 – 10: 15 pm

<b>School of Business Recommendations for Honor Code Violations</b> <b>Approved November 2021</b>	
UG-Freshman Students	
Type of Violation	Sanction
<b>Plagiarism</b> <ol style="list-style-type: none"> <li>1. Failure to cite/attribute sources</li> <li>2. Representing someone else's work as the student's own (e.g., copying and pasting)</li> </ol>	<p>A 10% reduction in the final course grade; referral to the Writing Center; and relevant Academic Integrity seminar/training completion</p> <p>An F in the class; referral to the Writing Center; and relevant Academic Integrity seminar/training completion</p>
<b>Cheating</b> <ol style="list-style-type: none"> <li>1. On a minor assignment (e.g., homework, quizzes)</li> <li>2. Cheating on a major assignment or exam, submitting course work from another course as original work</li> </ol>	<p>A 10% reduction in the final course grade; and relevant Academic Integrity seminar/training completion</p> <p>An F in the class; and relevant Academic Integrity seminar/training completion</p>
Lying (e.g., providing fraudulent excuse documents, falsifying data)	An F in the class; and relevant Academic Integrity seminar/training completion
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)	An F in the Class; relevant Academic Integrity seminar/training completion; and at least one semester suspension

**Notes:**

**1. The School of Business reserves the right to initiate termination proceedings for any student found guilty of an Honor Code violation by the Office of Academic Integrity.**

**2. The Office of Academic Integrity may increase these sanctions (up to and including expulsion from the university) for repeated offenses.**

*The Academic Integrity Seminar used by Office of Academic Integrity costs \$100.*

<b>School of Business Recommendations for Honor Code Violations</b> <b>Approved November 2021</b>	
<b>UG-Non Freshman Students (including transfer students)</b>	
<b>Type of Violation</b>	<b>Sanction</b>
<b>Plagiarism</b> 1. Failure to cite/attribute sources 2. Representing someone else's work as the student's own (e.g., copying and pasting)	An F in the class; referral to Writing Center; and relevant Academic Integrity seminar/training completion
<b>Cheating</b> 1. On a minor assignment (e.g., homework, quizzes) 2. Cheating on a major assignment or exam, submitting course work from another course as original work	An F in the class; and relevant Academic Integrity seminar/training completion  An F in the class; and relevant Academic Integrity seminar/training completion, and at least one semester suspension
<b>Lying</b> (e.g., providing fraudulent excuse documents, falsifying data)	An F in the class; and relevant Academic Integrity seminar/training completion, and at least one semester suspension
<b>Egregious Violation</b> (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)	An F in the class, relevant Academic Integrity seminar/training completion; and at least one-year suspension

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