

IMBA 6021: Data Analysis for Business Fall 2026 (Cohorts A and B)

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How to reach me?

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Course Description and Objectives

To introduce participants to a problem-driven approach to assembling, analyzing, and taking action on data. With the Problem-Plan-Data-Analysis-Conclusions (PPDAC) Cycle and Gartner’s Analytics Maturity Model (Descriptive → Diagnostic → Predictive → Prescriptive Analytics) as frameworks, fundamental concepts for the analysis of data will be covered, including descriptive statistics, visualizations, probability and distributions, confidence intervals, hypothesis testing, and regression. Knowledge of the “whys” behind these tools facilitates rigorous data-driven decision-making. The learning objectives of this course are:

1. To understand and execute the process of decision-making based on data;
2. To assemble, summarize, visualize, and analyze data arising in decision making; and,
3. To conceptualize and interpret models for diagnostic, predictive, and prescriptive analytics.

The instructional approach will combine theory and application. **A computer with the rights to install software will be needed in each class (a smartphone/tablet will not suffice)**. Please note that necessary theoretical foundations will need to be covered to ensure appropriate application of these concepts in practice.

Required Materials/Software to be Installed

- Course material, organized by session, on Canvas→Modules (<https://canvas.gatech.edu>).
- R, RStudio, and Radiant, for which installation file(s) can be downloaded for free from: <https://radiant-rstats.github.io/docs/install.html>. Please carefully follow the **text and video instructions** for correct installation.
- Other installation experiences:
 - **You must have administrative rights to install software on your computer. This cannot be bypassed.**
 - Installation fails if your computer’s folders redirect to a cloud drive (e.g., OneDrive, Dropbox, etc.). Please ensure that you are installing the program on your computer’s hard drive.

- Windows
 - You may have to switch out of “S mode” (see <https://bit.ly/3NQmZMM>) for installation.
 - If you encounter a message that “Rtools” is missing, then install Rtools from <https://cran.r-project.org/bin/windows/Rtools/rtools43/rtools.html> and reattempt the installation.
- macOS
 - Installation of Radiant has sometimes been unsuccessful on 8+ year-old macOS computers. Please update the OS first before attempting installation.
 - Please ensure that you are choosing the software version appropriate for your computer model (this information is on the installation page for Radiant).
- If you continue to face an installation issue, please research Radiant’s “Issues” page on GitHub: <https://github.com/radiant-rstats/radiant/issues?q=>

Book

The Art of Statistics: How to Learn from Data by Sir David Spiegelhalter (ISBN-13: 978-1541675704; ISBN-10: 1541675703). <https://www.amazon.com/dp/1541675703>

Grading

Final grades will be based on the following **individual** evaluation components. Extensive flexibility is already incorporated in the evaluation components and deadlines. For extenuating circumstances, requests for late/make-up submissions should be made through the Dean of Students to preserve privacy (visit <https://studentlife.gatech.edu/request-assistance>).

Evaluation Components

Components (Individual)	Weight	Notes
5 Quizzes (see schedule below)	40%	Online, via Canvas; Best 4 Quizzes count (each 10% weight; Open book, Open notes, Internet resources allowed) Collaboration allowed but no copying or giving away answers.
Personal Reflection	20%	500-750 words Due by 11:59 PM on Friday, December 18 via Canvas
Final Exam (Online)	40%	Open book, Open notes, New internet resources not allowed (previously-downloaded/bookmarked resources are allowed) Opens Noon on Sunday, December 13, via Canvas Due by 11:59 PM on Sunday, December 20, via Canvas Individual; No collaboration allowed

Class Meeting Dates and Quiz Schedule (Cohorts A and B)*

Session	Cohort A	Cohort B	Quiz #	Quiz Opens at Noon on	Quiz Due by 11:59 PM on	Answers/Scores released by 11:59 PM on
I	TBD	TBD	1	TBD	TBD	TBD
II	TBD	TBD	2	TBD	TBD	TBD
–	–	–	3	TBD	TBD	TBD
III	TBD	TBD	4	TBD	TBD	TBD
–	–	–	5	TBD	TBD	TBD
IV	TBD	TBD	–	–	–	–

*Additional videos on specific topics/concepts will be posted as needed for asynchronous viewing

Summary Session Plan*

[Subject to change, depending on time constraints or other circumstances]

Session #	Topic(s)	Recommended Follow-Up with Chapters in <i>The Art of Statistics</i>
I + Asynchronous*	<i>Introduction; Descriptive Analytics</i>	Introduction, 1, 2, 3
I, II + Asynchronous*	<i>Probability and Distributions</i>	8, 9, 11
II, III + Asynchronous*	<i>Confidence Intervals; Hypothesis Testing</i>	7, 10
IV + Asynchronous*	<i>Regression & Wrap-Up</i>	4, 5 (Optional: 12, 13, 14)

*Additional videos on specific topics/concepts will be posted as needed for asynchronous viewing

Guidelines for Class Sessions

- **Canvas is the one place** where you will find everything needed to keep up with this course.
- **Classes will be held in person and will not be live-streamed.** My plan is to record all class sessions. In case a recording fails, I may refer you to the recording of the same session for the other cohort, or substitute with a previous semester's recording.
 - o I will post links to the recordings on Canvas by Noon on the respective Sundays.
 - o Please note that recordings may not fully capture the classroom experience.
- I understand that there may be occasions where you might have to miss class for valid reasons. **You need not inform me beforehand.** Please ensure that you review the recordings/materials posted on Canvas for any missed sessions and catch up on notes with your classmates.
- You will **need a computer (with rights to install software) for every session.** We will simultaneously access Canvas on a browser, Radiant, and Microsoft Excel, making smartphones/tablets an infeasible way of participating.
- Please always place your name card/tent in front of you. I would like to address you and get to know you by name.

i. Quizzes

There will be five online Quizzes (10% weight each) over the duration of the course to track and assess your understanding of the material covered. The **lowest Quiz score will be dropped.**

Important notes regarding the Quizzes:

- Please refer to the table above for the Quiz schedule. The Quizzes will be administered online via Canvas.
 - o There is **no time limit** once you start a Quiz (other than the deadline).
 - o **Multiple attempts** are allowed. **Re-taking a Quiz erases your answers**, so please do not abandon a Quiz after restarting. You will not be able to see your score immediately after you submit your answers. Please refer to the table above to see when scores will be released for each Quiz.
 - o **Before submitting your answers, please save a copy of your answers** (e.g., copy and paste into a Word/Text document) just in case you would like to reattempt a Quiz. **You will have to enter all your answers again if you reattempt a Quiz.**
 - o Please pay close attention to the instructions in the Quiz questions, including **number of decimal places (i.e., precision) to include in your answers.**
- **Collaboration is allowed** while working on the Quizzes, but each student must submit their answers individually. **Simply copying or giving Quiz answers away is not allowed.**
- The Quizzes will be open book, and open notes. **The use of Internet resources is allowed for the Quizzes.** Please download/bookmark these resources for future reference.
- Discussing the contents of a Quiz with **anyone outside of your section** (at Georgia Tech or elsewhere) will violate the Georgia Tech honor code and is not allowed.

ii. Personal Reflection

For this assignment, please submit **via Canvas** a two-page personal reflection (**500-750 words**), describing how one or more of the concepts learned in this course is something you encountered/are encountering in your previous/current job, or you believe may help you in an aspirational job/career. You may also choose to focus your personal reflection on significant personal experiences outside of work. Please feel free to offer examples of businesses/organizations or reference articles from the media to provide context for your discussion. **Please cite/hyperlink all sources.**

- As a guideline, I have included two samples (linked within the assignment on Canvas).
- **You can start working on your personal reflection at any time during the course – you do not have to leave this for just before the deadline.**

iii. Final Exam

The Final Exam will be an **individual (i.e., no discussion with anyone once the Final Exam is open)**, open book and open notes, covering content across all sessions. Important notes regarding the Final Exam:

- **Accessing the internet for new resources is not allowed for the Final Exam** (previously-downloaded/bookmarked resources are allowed). All Canvas resources/recordings will remain accessible for the Final Exam.
- In the interest of fairness to all, once the Final Exam is open, **I will only be able to clarify the exam questions for you rather than cover concepts.** It is important that you stay on top of the material and resolve any questions or concerns before the Final Exam opens.
- Sharing of course notes, computers, etc. is not allowed once the Final Exam is open.
- Discussing the contents of an exam with **anyone** (at Georgia Tech or elsewhere) will violate the Georgia Tech honor code and is not allowed.

Georgia Tech Honor Code

Students are expected to act and **must also expect their peers to act** according to the highest ethical standards, as outlined in the honor code at <http://www.policylibrary.gatech.edu/student-affairs/academic-honor-code>.

- **You are not allowed to seek or receive previous class material** (including class notes, readings, quizzes, exams, class recordings, etc.).
- While collaboration/working in study groups is allowed for the Quizzes (submissions are individual), **simply copying or giving Quiz answers away is not allowed.**
- Note that **collaboration is not allowed for the Personal Reflection and the Final Exam.**
- **Sharing/posting or offering to share/post any course material or recordings** (except sharing your class notes with your classmates) – whether during or after the end of the course – will violate the honor code and is not allowed.

Statement regarding recording/posting class material/recordings

Class recordings and materials posted on Canvas are copyrighted and are solely for this instance of the course. Participants must not share/screen-capture any class material or recordings.

Classroom Inclusivity

We should all commit to creating a mutually respectful learning environment. I am open to your feedback as we all build an environment in which every student is respected and valued and can therefore engage actively in our learning community.

Special Considerations/Needs

Please send me an email by **TBD** if you require accommodations due to a special need. Please visit: <https://disabilityservices.gatech.edu/students/getting-started>. I will work with you and the Office of Disability Services to make the necessary accommodations.

Georgia Tech Resources for Students

During your stint at Georgia Tech, you, or an individual you know of, might need academic or personal support. Helpful resources are listed here: <https://www.sga.gatech.edu/resources/>