MGT 6503
Managing Information Resources
Fall 2026

(starting in Fall 2026, pending final approval, the course will be renamed/replaced by MGT 6513 - Artificial Intelligence and the Digital Frontier)

Syllabus – Sections EMA and EMB

Instructor Information

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Office Hours:

TBD

Teaching Assistants

TBD

Delivery Mode, Location, and Time

Second half of the fall semester

Location TBD

In person, once a week

- Section EMA – Tuesdays – 6:30 pm – 9:15 pm
- Section EMB – Mondays – 6:30 pm – 9:15 pm

Course Goals

This course has two major goals.

1. Fundamental Business Concepts

First, the course introduces students to emerging trends, opportunities, transformations, and challenges that companies and industries face due to the advances, interconnectedness, and ubiquity of information technology (IT). Over the past few decades, IT and AI have evolved at a breathtaking—and accelerating—pace, driving fundamental changes across sectors. It is more important than ever for managers and entrepreneurs to understand the evolving digital environment and to leverage AI and data-driven decision making to build sustainable, IT-infused competitive advantage.

2. Tools And Methods

Second, the course provides hands-on exposure to analytical as well as generative AI (GenAI) and agentic AI methods and tools. Students will use R (via RStudio) to visualize and analyze data—tackling, as an illustration of supervised machine learning, classification via decision trees and random forests. They will also gain direct experience with generative and agentic AI platforms, using mainstream GenAI as well as low-code and no-code environments such as Dify to engineer prompts, context, and persona; construct retrieval-based applications; and prototype simple multi-step agentic workflows. The goal is to equip students with skills to derive insight from data and to leverage generative and agentic AI systems — responsibly and creatively — toward enhancing individual productivity, business processes, managerial judgment, and organizational intelligence.

Detailed Course Objectives

Upon successful completion of the course, students should be able to:

1. Identify and articulate the strategic and transformative role of Artificial Intelligence (AI) and Machine Learning (ML) in modern business enterprise and society (trends, disruption, opportunities, challenges).
2. Describe and differentiate the notions of AI and ML; summarize at a high-level different ML paradigms (supervised, unsupervised, semi-supervised, and reinforcement ML) and various use cases and methods for each.
3. Build and use classifiers (decision trees, random forests) for business decision making, interpret the output, apply cross-validation techniques to fine-tune the classifiers, and use various methods to evaluate their performance.
4. Explain at a high level how GenAI and LLMs work.
5. Apply context engineering (prompt engineering and retrieval-augmented generation) techniques to improve responses from LLMs, based on use case; create simple agentic AI workflows.
6. Describe various governance and risk issues related to the adoption and use of Gen/Agentic AI.
7. Explain basics and various use cases for the blockchain technology.
8. Analyze important challenges related to IT sustainability and formulate strategies that promote sustainable IT product development.

9. Explain various contemporary cybersecurity, safety, and privacy threats associated with IT products and services, especially in the context of rapidly evolving IT and AI capabilities.

Course Materials

- There is **no** course pack.
- Instructor will provide links to **free** readings and videos on the Internet.
- You will need to **pay** for access to various LLM **APIs** (you will need to load once the accounts with the **minimum** amount – which historically has been $5 but can change in the future – the account is charged per use but the overall use will be very low for purposes of this course – the minimum amount will be more than enough) – more info will be communicated during the course.

Course Requirements, Assignments & Grading

Assignment Distribution and Grading Scale

Assignments	**Points**
Class participation (before-class and in-class)	280 pts.
Tools and methods assignments	360 pts.
Final exam	360 pts.
Total	**1000 pts.**

The conversion of point scores to *letter grades* is as follows:

A = 895 – 1000 pts (above 90% with rounding)
B = 795 – 894 pts (80-89% with rounding)
C = 695 – 794 pts (70-79% with rounding)
D = 595 – 694 pts (60-69% with rounding)
F = 0 – 594 pts (0-59% with rounding)

* Note: the instructor may curve the grades if the need arises.

Class Participation

Class participation will be evaluated in two ways

1. **Reading/video assignments**: via ***"before-lecture" (or "b4 class") online questions*** (related to the **assigned readings** – only a few lectures will have assigned readings/videos – students will be informed at the beginning of the course as to which lectures have assigned readings). The answers to these questions will be due **prior** to when the respective module becomes available in Canvas.
    - Individual work is required for these questions. Students must formulate their responses independently, **WITHOUT** discussing them with classmates or seeking input from others. However, students should feel free to discuss the readings/videos in a general context with their peers.

2. **In-lecture activities:** via ***"lecture-based" (or "in-class") online questions/exercises*** embedded in each lecture, relating to the material being taught in that respective module.
    - Individual work is required for these questions. Students must formulate their responses independently, but students are **free to discuss these questions with other classmates** – however, **DO NOT** copy someone else's answer.

Questions will be administered via **Canvas**.

*Note that **essay-based questions** will have **length limits** (clearly specified in the text of the question – either in terms of number of characters, words, or sentences). **Answers that are *longer than the limit* will receive a *penalty* in terms of points**. We are not trying to be mean. Longer answers take longer to grade which, in turn, delays releasing the scores and feedback to all the students (since grades are released at once for everyone). Since this is a very short course (7 weeks), we need to stay on track.

** Answers to reading/video assignments that ***do not*** specifically address the content in the reading assignments will receive a *point penalty*.

Final Exam

The final exam will be delivered **in-person** (in class, on your computer, using a lockdown browser). There will be no make-ups unless for reasons mandated by the Institute policies. If a student cannot complete the exam according to course schedule due to unavoidable circumstances, the student should contact in advance the instructor.

The instructor will announce ahead of time precisely what material will be covered on the final exam.

The final exam is to be taken individually. During the exam, you are ***NOT*** allowed under any circumstance to access GenAI applications, browse the Internet outside your exam browser window, use other devices that can connect to Internet (e.g., smartphones, tablets, smart glasses), or discuss anything related to the exam with anyone else except the Instructor and the TAs.

Tools and Methods Assignments

There are **3 tools and methods assignments** throughout the course. **Some** of these tools and methods assignments will be ***group assignments*** and some will be ***individual assignments*** *(it will be clearly stated for each tools-and-methods assignment whether it is a group or an individual assignment).*

For group assignments – **students are free to form teams of up to 4 individuals, within the same section**

All deadlines will be communicated to students once the course starts. All submissions must be in electronic form (submitted via "Assignments" tab in Canvas – acceptable file formats will be communicated for each assignment). Each submitted document must properly identify the author(s). More instructions will be given along with the assignments.

In general, no late submission will be accepted (exceptions only in cases of pertinent situations such as documented medical conditions or Institute approved events).

***DISPUTE RESOLUTION** – in case there is a **dispute** within a group for work towards a group assignment (due to free-riding issues or other incompatibilities) and the issue cannot be resolved internally within the group, the students are encouraged to bring that issue to the attention of the instructor. Students may also submit peer evaluations to help with the resolution of such disputes.

Restrictions on the use of Gen / Agentic AI

Unless explicitly permitted, you are ***NOT* allowed** to just dump the **(class participation or tools and methods) assignments** into gen AI and copy-paste the answer without putting substantial effort in completing the assigned tasks. Doing so will be considered academic cheating.

For particular parts of the assignments, you will be asked to use GenAI to produce the answers.

You are ***NOT*** allowed to use any GenAI or Agentic AI tools for the **final exam** under any circumstance.

Attendance Policy

While attendance is not strictly enforced or required, each lecture has graded in-lecture activities (as mentioned above) that contribute towards the final course grade.

If you are **absent from lecture**, **YOU ARE NOT ALLOWD TO SUBMIT** the answers to in-lecture activities from outside the classroom without instructor's explicit permission.

Software

In this course, the students will use **R** (via **RStudio**), **Dify**, and various **GenAI tools** during lectures and for the assignments. R and RStudio are open source (free) and can be installed on both Windows and MacOS machines. Installation instructions will be provided. You can set up a Dify account online for free. Also, various GenAI tools offer a free tier.

* Students may be required to **pay for access to a higher tier** (above free) for LLM APIs. In general, just loading the minimum amount in the accounts will suffice. Charges are recorded under a pay-per-use mode, and usually for the volume of tokens and requests sent to LLMs in the context of this course, the cost should be very small.

In addition, students will utilize the **Canvas** platform.

Hardware

Students will need access to a **personal computer** (tablets do not work properly). Students must have **admin rights** for their computer in order to be able to install and configure software (if that is your own computer, you should be ok – otherwise, make sure you get admin rights). In terms of processing power, as long as your computer is **not older than 5-6 years**, you should be fine.

*** In the past, R and RStudio **could not be installed properly on tablets**. So you need a personal computer (laptop / desktop).

Course Policies, Expectations & Guidelines

Communications / Changes to syllabus

The above procedures for grading are subject to change. Any changes (with sufficient time for students to make necessary adjustment) will be posted on the shared class website on Canvas (http://www.canvas.gatech.edu/). This website will be also used to distribute assignments, grades, lecture notes, announcements. It is the students' responsibility to check the website ***regularly (at least 24 hrs. before every lecture to check deadlines for deliverables)*.**

Communication will also be based on the Georgia Tech student email (that ends in @gatech.edu) that is assigned to you. We pull that address automatically from the school database. It is your responsibility to have the Georgia Tech email account active and to receive and regularly read messages written to that address. If you have a personal address (like Gmail or Yahoo) that you prefer to use, please forward your Georgia Tech email to that address and make sure it is not filtered as spam.

VERY IMPORTANT! – The preferred communication channel is **email** to reach out to the professor or the TAs outside the classroom. **DO NOT use the comments / messaging tools in Canvas for communication** with TAs and Instructor.

In addition, all office hours will be conducted via **Zoom**.

Academic Honesty and Honor Code

This course will follow the guidelines established by Georgia Tech's honor code and student handbook. Please see https://osi.gatech.edu/students/honor-code (additional information can also be found at http://www.honor.gatech.edu/). Any plagiarism or academic cheating will be reported to the Dean of Students. Please be aware of the following:

- All sources of information ***quoted*** in any of the course assignments should be appropriately acknowledged (you can use any unambiguous citation format).
- You must work alone and without any unauthorized help/aids during the exams.
- You must work within your groups on the group assignments. You can seek general help on the subject matter relevant to the assignment from others (at a high, theoretical level), but work within your groups on the specific tasks. Please address specific questions to the TAs or the instructor.

Disability Accommodation

The Georgia Institute of Technology has policies for disability accommodation through the Office of Disability Services. Students may learn about these policies and available services at http://disabilityservices.gatech.edu/.

Student Conduct and (N)etiquette

Although it is not expected to be a problem in a graduate-level class, students are asked to behave in the discussions and other class interactions professionally and civilly.

During in-person lectures/ virtual office hours / meetings, you are expected to adhere to common sense norms of good behavior and peer respect. Respectful language and appearance (via in person, voice, chat, email and any other communication channel) is a must. For online communication, if you are in doubt, do not post it! Instructors reserve the right to remove any postings deemed inappropriate, unprofessional, or otherwise distracting from the course.

Disruptive behavior will be reported to the Office of the Dean of Students and/or to the MBA Office. Any behavior deemed a student safety risk will be reported to GT Police.

University Use of Electronic Email

A university-assigned student e-mail account is the official university means of communication with all students at Georgia Institute of Technology. Students are responsible for all information sent to them via their university-assigned e-mail account. If a student chooses to forward information to their university e-mail account, he or she is responsible for all information, including attachments, sent to any other e-mail account. To stay current with university information, students are expected to check their official university e-mail account and other electronic communications on a frequent and consistent basis. Recognizing that some communications may be time-critical, the university recommends that electronic communications be checked minimally twice a week.

Copyright

Among the materials that may be protected by copyright law are the lectures, notes, and other material presented in class or as part of the course. Always assume the materials presented by an instructor are protected by copyright unless the instructor has stated otherwise.

Student-Faculty Expectations Agreement

At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgment, and responsibility between faculty members and the student body. See https://catalog.gatech.edu/rules/21/ for an articulation of some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Topics

- **Digital (R)Evolution: Gen and Agentic AI**
  - Trends and managerial considerations
- **Intro to AI and Machine Learning**
- **Data Analytics: Illustration of Supervised ML – Classification**
  - Classification via Decision Trees and Random Forests
  - Cross-Validation of Classifiers
  - Evaluation of Classifiers
- **GenAI and Agentic AI**

    - Part 1: Fundamentals of LLMs
    - Part 2: Context Engineering
    - Part 3: From AI Assistants to AI Agents
    - Part 4: Risks and Governance
- **Blockchain**
- **E-waste and IT Sustainability**
- **IT Security, Privacy, Safety**

Final Exam

- **In-person** (in class, via Lockdown browser – **bring computer!**)
- **170 mins (6:30-9:20 pm)**
- **Location and Date: TBD**