

# MGMT 675

## AI-Assisted Financial Analysis



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### Instructor

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### Learning Objectives

The emergence of generative AI has been reshaping financial workflows and careers. This course prepares MBA students to leverage AI for financial analysis. The course is organized around the following principles:

What you will learn:

1. How to work with AI to do financial analysis
2. How custom chatbots and AI agents work
3. How to work with AI to build custom chatbots and AI agents for financial analysis
  - Item #1 is essential today
  - Item #2 is valuable today
  - The purpose of #3 is
    - More practice on #1
    - A deeper understanding of #2
    - You could end up at a small firm and be the AI expert

### AI Tool

We are going to use Anthropic's Claude for the course. Claude Opus and Sonnet are the best coding LLMs. Also, Anthropic recently released Excel integration, so Claude can generate fully functioning, nicely formatted Excel workbooks. In addition, Anthropic created the Model Context Protocol (MCP) and has recently made it simpler for users to configure MCP connections in Claude Desktop. Finally, we will use Claude Code, which is a very powerful coding agent.

## Evaluation

Grades will be based on four elements (25% each). The first three are **group projects**.

1. AI cost of capital exercise: calculation, visualization, report generation
2. Cost of capital app
3. Valuation chatbot
4. Seated exam with AI allowed

For each of the group projects, the deliverables are:

- A chat/app/agent
- A two-page Word doc explaining development and use

## Honor Code

The Rice University honor code applies to all work in this course. Use of generative AI is of course permitted.

## Disability Accommodations

Any student with a documented disability requiring accommodations in this course is encouraged to contact me outside of class. All discussions will remain confidential. Any adjustments or accommodations regarding assignments or the final exam must be made in advance. Students with disabilities should also contact Disability Support Services in the Allen Center.

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## Schedule

### Week 1: Introduction

- Collaborating with AI: Claude + Excel for valuation
  - Case study: [Valuing Walmart 2010](#)
- Corporate implementations of AI
  - Case study: [Implementing AI at Deloitte](#)
  - Other reading: [State of AI in Business 2025](#)
  - Other reading: [Generative AI Reshaping Teamwork and Expertise](#)

### Week 2: Vibe Coding for Data Analysis

- Claude Desktop and Google Colab
- Cleaning, sorting, filtering and aggregating
- Data visualization
- Generating Word docs and PowerPoint decks
- Installing Python locally and Claude Code

### **Week 3: Vibe Coding for Financial Analysis**

- Retirement planning simulation
- Mean-variance portfolio optimization
- Mutual fund performance evaluation

### **Week 4: Custom Chatbots and Apps**

- Building and running Streamlit apps
- Examples: retirement planning and asset allocation
- Custom chatbots: API calls, system prompts, and RAG
- Building custom chatbots as Streamlit apps

### **Week 5: Automating DCF Analysis**

- Converting rules into apps
- Configuring apps as chatbot tools
- Fine-tuning output (Excel, PowerPoint, Word)
- Collaborating with the chatbot on assumptions
- Group project 2 due

### **Week 6: Deployment and Databases**

- Alternatives for deploying apps/chatbots/agents
- Deploying databases
- Creating database agents
- Wrap-up
- Group project 3 due