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## RM 394: FINANCIAL MODELING & TESTING SYLLABUS

Unique: 04995 | Spring 2022 | Muthuraman, Sury, Titman

M 5:30-8:30pm | GSB 3.106

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This project-based course integrates the lessons learned in the Investment Theory and Advanced Corporate Finance courses with the advanced statistical and machine learning techniques acquired in the core MSBA program. Students will utilize traditional financial datasets (e.g., financial statements, ratio analysis, credit and fixed income information, stock returns) from a variety of data sources and platforms, including WRDS/Compustat/CRSP, Bloomberg, and Factset.

In addition, this course will explore more advanced techniques designed to yield insights from alternative and unstructured datasets (e.g., text and sentiment analysis of earnings conference calls; SEC filings like 10K's, 10Q's, and 8-Ks; message and discussion boards; marketing/customer feedback; orbital data; and other big data sources).

Students will collect, wrangle, and munge data; apply exploratory statistical techniques to generate initial investment hypotheses; design and construct portfolios; conduct rigorous in-sample and out-of-sample testing; and ultimately present and defend their findings to the faculty team.

**Prerequisites:** Restricted to MSBA/Financial Analytics Track students only or consent of instructor(s). Students are expected to have a strong background in Python, probability and statistics, and regression and machine learning techniques. Students must have completed and passed BA 692N.

### Learning Objectives:

- Developing proficiency in retrieving financial data from WRDS (e.g., CRSP, Compustat, etc.)
- Understanding empirical testing methodologies in finance
- Conducting exploratory data analysis on financial data sources
- Properly generating and articulating finance/investment hypotheses
- Applying machine learning techniques to financial data sets
- Analyzing text/sentiment and other unstructured data to yield actionable insights
- Presenting and defending study findings in a cross-examination format

### Contacts:

#### **Professor**

Sheridan Titman  
Michael Sury  
Kumar Muthuraman

#### **Email**

sheridan.titman@mcombs.utexas.edu  
michael.sury@mcombs.utexas.edu  
kumar.muthuraman@mcombs.utexas.edu

#### **Office Hours\***

W, 5pm  
Su, 6pm  
TBD

#### **TA**

Eric Vance

#### **Email**

eric.vance@mcombs.utexas.edu

#### **Office Hours**

ad hoc and by appt.

Email tends to be the best way to reach us. However, please note that federal student privacy policy (FERPA) may prohibit us from discussing grade-related information via telephone or email.

*\*and by appointment*

**Required Materials:**

1. WRDS Account
2. Python/R for Coding
3. Google CoLab account
4. *Wall Street Journal & Barrons*

This course will be run “seminar-style,” in that it will be discussion-oriented, projected-based, and highly interactive. As a result, students are expected to: conduct independent inquiry and research outside of the classroom, be actively engaged during class discussions, ask cogent questions, and contribute insightful commentary. Students will be responsible for ensuring that they are each individually conversant in and familiar with any underlying prerequisite material being referenced in class.

In general, especially in the first portion of the semester, weeks will alternate between dedicated lecture sessions and dedicated student presentation sessions. During presentations, selected student teams will present their progress in the project(s) and will be subject to cross examination by both the faculty team and the other students. Among other factors, presenters will be evaluated based upon their level of preparedness, competency in the methods and techniques employed, interpretability and summary of their findings, ability to respond to questions and critiques, and the quality in—and professionalism of—their presentation and materials.

In addition, students in the audience will be evaluated based upon the quality of their questions, critiques, and commentary during the presentations.

**Grading**

Course performance is expected to be evaluated according to the following schedule:

Participation:	20%
HW1	12%
HW2	12%
HW3	12%
HW4	12%
HW5	12%
Term Project:	20%
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TOTAL	100%

\*\*The number of homework projects may be adjusted depending upon the general progress and needs of the class.

**Important:** Please note that essential information will be regularly posted on the Canvas course website at <https://utexas.instructure.com>. Check this site regularly for updates and announcements.

**Changes** to the syllabus and schedule may be made at faculty discretion and if circumstances require. It is your responsibility to note these changes when announced (although we will do our best to ensure that you receive the changes with as much advanced notice as possible).

*(continued, next page)*

## CLASS POLICIES

### Statement on Learning Success

Your success in this class is important to us. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let us know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course. We also encourage you to reach out to the student resources available through UT. Many are listed on this syllabus, but we are happy to connect you with a person or Center if you would like.

### Grading Policies

The letter grade cutoffs are listed below. Depending upon the distribution of the raw class performance, a curve may be applied. Please do not ask us what the curve will be during the semester, as we cannot know it until all the grading elements have been submitted. If possible, we will supply some feedback about the class' general performance throughout the semester.

A: 94%	B+: 87%	C+: 77%	D: 65%	F: <65%
A-: 90%	B: 84%	C: 74%		
	B-: 80%	C-: 70%		

### Late work

All work must be submitted no later than the start of class on the day that it is due, unless otherwise instructed. In the business world, and particularly in corporate finance and investment banking, there can be substantial penalties for late submissions. Significant business opportunities may be lost by neglecting to adhere to schedules, deadlines, and other important dates.

### Absences

It is important for you to come to class every session. However, things happen. If you must be absent, please notify the TA, along with the nature of the absence (e.g., religious holiday, extenuating circumstance, emergency, etc.)

## ONLINE RESOURCES AND POLICIES

### 1) Getting help with Zoom:

Students needing help with Zoom can refer to the [McCombs Student Instructional Resources Wiki](https://wikis.utexas.edu/display/MSBTech/Student+Online+Instruction+Wiki) (<https://wikis.utexas.edu/display/MSBTech/Student+Online+Instruction+Wiki>). All Canvas webpages for all McCombs courses will have a link to the McCombs Student Instructional Resource Wiki on the bottom left corner, so students can access it from their Canvas course pages.

### 2) Preferred method of joining a class or office hours in Zoom:

The preferred method of joining a class or office hours is through video on Canvas. Students must log into their Canvas course site and click on Zoom in the left toolbar to locate links to join the class in Zoom.

### 3) **Zoom etiquette:**

Because there will be so many people on these Zoom meetings, here are some best practices for making sure we are working together to create an efficient, effective, respectful, and ultimately enjoyable classroom!

- Mute yourself unless you are speaking. This will cut down on background noise and limit any distractions
- Be mindful of your surroundings when on camera. We want to make sure we avoid as much distraction as possible
- Please add a professional photo of yourself for your Zoom profile picture. This photo will be visible during class sessions
- Turn your camera off if you are leaving the meeting temporarily and use the away feedback icon
- Try to keep questions and comments brief. With a large classroom, there are many people to get through and many questions to move through. Try to limit remarks as much as possible
- Minimize repetition. If you are hearing repeat information, use the go faster icon.
- If the video or audio is choppy, try turning off your video.
- Please try to use the most reliable WIFI you can access.

### 4) **Getting help with Zoom:**

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- Minimize repetition. If you are hearing repeat information, use the go faster icon.
- If the video or audio is choppy, try turning off your video.
- Please try to use the most reliable WIFI you can access.

## STUDENT RIGHTS AND RESPONSIBILITIES

- You have a right to a learning environment that supports mental and physical wellness.
- You have a right to respect.
- You have a right to be assessed and graded fairly.
- You have a right to freedom of opinion and expression.
- You have a right to privacy and confidentiality.
- You have a right to meaningful and equal participation, to self-organize groups to improve your learning environment.
- You have a right to learn in an environment that is welcoming to all people. No student shall be isolated, excluded or diminished in any way.

### With these rights come responsibilities:

- You are responsible for taking care of yourself, managing your time, and communicating with the teaching team and with others if things start to feel out of control or overwhelming.
- You are responsible for acting in a way that is worthy of respect and always respectful of others. • Your experience with this course is directly related to the quality of the energy that you bring to it, and your energy shapes the quality of your peers' experiences.
- You are responsible for creating an inclusive environment and for speaking up when someone is excluded.
- You are responsible for holding yourself accountable to these standards, holding each other to these standards, and holding the teaching team accountable as well.

### Personal Pronoun Preference

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. We will gladly honor your request to address you by a name different than what appears on the roster, and by the gender pronouns you use. Please advise us of this preference early in the semester so that we may make appropriate changes to our records.

## UNIVERSITY POLICIES

### Academic Integrity

We have no tolerance for acts of academic dishonesty. Such acts damage the reputation of the school and the degree and demean the honest efforts of the majority of students. The minimum penalty for an act of academic dishonesty will be a zero for that assignment or exam. As specific guidance for this course, you should not try to seek guidance about exams or types of questions from students who have previously taken this class. You should not do anything to aid future students in the testing process. Helping fellow students learn is an important part of our culture. We believe that it is easy to distinguish the attempt to help someone learn as opposed to the attempt to pass on information about exams.

## **Honor Code Purpose**

Academic honor, trust and integrity are fundamental to The University of Texas at Austin McCombs School of Business community. They contribute directly to the quality of your education and reach far beyond the campus to your overall standing within the business community. The University of Texas at Austin McCombs School of Business Honor System promotes academic honor, trust and integrity throughout the Graduate School of Business. The Honor System relies upon The University of Texas Student Standards of Conduct (Chapter 11 of the Institutional Rules on Student Service and Activities) for enforcement, but promotes ideals that are higher than merely enforceable standards. Every student is responsible for understanding and abiding by the provisions of the Honor System and the University of Texas Student Standards of Conduct. The University expects all students to obey the law, show respect for other members of the university community, perform contractual obligations, maintain absolute integrity and the highest standard of individual honor in scholastic work, and observe the highest standards of conduct. Ignorance of the Honor System or The University of Texas Student Standards of Conduct is not an acceptable excuse for violations under any circumstances.

The effectiveness of the Honor System results solely from the wholehearted and uncompromising support of each member of the McCombs School of Business community. Each member must abide by the Honor System and must be intolerant of any violations. The system is only as effective as you make it.

## **Faculty Involvement in the Honor System**

The University of Texas at Austin McCombs School of Business Faculty's commitment to the Honor System is critical to its success. It is imperative that faculty make their expectations clear to all students. They must also respond to accusations of cheating or other misconduct by students in a timely, discrete and fair manner. We urge faculty members to promote awareness of the importance of integrity through in-class discussions and assignments throughout the semester.

## **Expectations Under the Honor System**

### **Standards**

If a student is uncertain about the standards of conduct in a particular setting, he or she should ask the relevant faculty member for clarification to ensure his or her conduct falls within the expected scope of honor, trust and integrity as promoted by the Honor System. This applies to all tests, papers and group and individual work. Questions about appropriate behavior during the job search should be addressed to a professional member of the Career Management Office. Below are some of the specific examples of violations of the Honor System.

### **Lying**

Lying is any deliberate attempt to deceive another by stating an untruth, or by any direct form of communication to include the telling of a partial truth. Lying includes the use or omission of any information with the intent to deceive or mislead. Examples of lying include, but are not limited to, providing a false excuse for why a test was missed or presenting false information to a recruiter.

## Stealing

Stealing is wrongfully taking, obtaining, withholding, defacing or destroying any person's money, personal property, article or service, under any circumstances. Examples of stealing include, but are not limited to, removing course material from the library or hiding it from others, removing material from another person's mail folder, securing for one's self unattended items such as calculators, books, book bags or other personal property. Another form of stealing is the duplication of copyrighted material beyond the reasonable bounds of "fair use." Defacing (e.g., "marking up" or highlighting) library books is also considered stealing, because, through a willful act, the value of another's property is decreased. (See the appendix for a detailed explanation of "fair use.")

## Cheating

Cheating is wrongfully and unfairly acting out of self-interest for personal gain by seeking or accepting an unauthorized advantage over one's peers. Examples include, but are not limited to, obtaining questions or answers to tests or quizzes, and getting assistance on assignments beyond what is authorized by the assigning instructor. It is also cheating to accept the benefit(s) of another person's theft(s) even if not actively sought. For instance, if one continues to be attentive to an overheard conversation about a test or case write-up even if initial exposure to such information was accidental and beyond the control of the student in question, one is also cheating. If a student overhears a conversation or any information that any faculty member might reasonably wish to withhold from the student, the student should inform the faculty member(s) of the information and circumstance under which it was overheard.

## Actions Required for Responding to Suspected and Known Violations

As stated, everyone must abide by the Honor System and be intolerant of violations. If you suspect a violation has occurred, you should first speak to the suspected violator in an attempt to determine if an infraction has taken place. If, after doing so, you still believe that a violation has occurred, you must tell the suspected violator that he or she must report himself or herself to the course professor or Associate Dean of the McCombs School of Business. If the individual fails to report himself or herself within 48 hours, it then becomes your obligation to report the infraction to the course professor or the Associate Dean of the McCombs School of Business. Remember that although you are not required by regulation to take any action, our Honor System is only as effective as you make it. If you remain silent when you suspect or know of a violation, you are approving of such dishonorable conduct as the community standard. You are thereby precipitating a repetition of such violations.

## The Honor Pledge

The University of Texas at Austin McCombs School of Business requires each enrolled student to adopt the Honor System. The Honor Pledge best describes the conduct promoted by the Honor System. It is as follows:

*"I affirm that I belong to the honorable community of The University of Texas at Austin Graduate School of Business. I will not lie, cheat or steal, nor will I tolerate those who do."*

*"I pledge my full support to the Honor System. I agree to be bound at all times by the Honor System and understand that any violation may result in my dismissal from the McCombs School of Business."*

**Diversity and Inclusion**

It is our intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed and that the diversity that students bring to this class can be comfortably expressed and be viewed as a resource, strength and benefit to all students. Please come to us at any time with any concerns.

**Q Drop Policy**

If you want to drop a class after the 12th class day, you'll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see: <http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop>

**University Resources for Students**

Your success in this class is important to us. From time to time, we all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let us know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course. There are also a range of resources on campus:

*Services for Students with Disabilities*

This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with us, or if you need specific arrangements in case the building needs to be evacuated, please let us know. We are committed to creating an effective learning environment for all students, but we can only do so if you discuss your needs with us as early as possible. We promise to maintain the confidentiality of these discussions. If appropriate, also contact Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329- 3986 (video phone).

<http://ddce.utexas.edu/disability/about/>

*Counseling and Mental Health Center*

Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support.

<http://www.cmhc.utexas.edu/individualcounseling.html>

*The Sanger Learning Center*

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit: <http://www.utexas.edu/ugs/slc> or call 512-471-3614 (JES A332).

*Undergraduate Writing Center:* <http://uwc.utexas.edu/>

*Libraries:* <http://www.lib.utexas.edu/>



ITS: <http://www.utexas.edu/its/>

Student Emergency Services: <http://deanofstudents.utexas.edu/emergency/>

### **Important Safety Information:**

If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (the Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn't feel right – it probably isn't. Trust your instincts and share your concerns.

### ***Title IX Reporting***

Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university's [relevant policies](#).

Faculty members and certain staff members are considered “Responsible Employees” or “Mandatory Reporters,” which means that they are required to report violations of Title IX to the Title IX Coordinator.

**We are Responsible Employees and must report any Title IX related incidents** that are disclosed in writing, discussion, or one-on-one. Before talking with us, or with any faculty or staff member about a Title IX related incident, be sure to ask whether they are a responsible employee. If you want to speak with someone for support or remedies without making an official report to the university, email [advocate@austin.utexas.edu](mailto:advocate@austin.utexas.edu) For more information about reporting options and resources, visit [titleix.utexas.edu](http://titleix.utexas.edu) or contact the Title IX Office at [titleix@austin.utexas.edu](mailto:titleix@austin.utexas.edu).

The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, <http://www.utexas.edu/safety/>

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: [www.utexas.edu/emergency](http://www.utexas.edu/emergency)

### ***COVID-19 Update: “Keep Learning” Resources***

This course may be offered in a format to which you are unaccustomed. If you are looking for ideas and strategies to help you feel more comfortable participating in our class, please explore the resources available here: <https://onestop.utexas.edu/keep-learning/>

**COVID-19 Update:** While we will post information related to the contemporary situation on campus, you are encouraged to stay up-to-date on the latest news as related to the student experience.

<https://coronavirus.utexas.edu/students>

## COVID-19 Updates: Spring 2021 Semester

### Safety and Class Participation/Masks:

For every face-to-face class experience, we will all need to make some adjustments in order to benefit from in-person classroom interactions in a safe and healthy manner. Our best protections against spreading COVID-19 on campus are masks (defined as cloth face coverings) and staying home if you are showing symptoms. Therefore, for the benefit of everyone, this means that all students are required to follow two important rules.

- **Every student must wear a cloth face covering properly in class and in all campus buildings at all times.**
- **Every student must engage in documented daily symptom screening.** This means that each class day in which on campus activities occur, students must upload certification from the symptom tracking app and confirm that they completed their symptom screening for that day to Canvas. Students should not upload the results of that screening, just the certificate that they completed it. If the symptom tracking app recommends that the student isolate rather than coming to class, then students must not return to class until cleared by a medical professional.

If a student is not wearing a cloth face covering properly in the classroom (or any UT building), that student must leave the classroom (and building). If the student refuses to wear a cloth face covering, class will be dismissed for the remainder of the period, and the student will be subject to disciplinary action as set forth in the university's Institutional Rules/General Conduct 11-404(a)(3). Students who have a condition that precludes the wearing of a cloth face covering must follow the procedures for [obtaining an accommodation](https://orientation.utexas.edu/students-with-disabilities) (<https://orientation.utexas.edu/students-with-disabilities>)

### Sharing of Course Materials is Prohibited:

No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have our explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. We are well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course.

### Class Recordings:

Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

Other guidelines include:

- Students in A/B cohort classes should attend their in-person section only on the day and at the time that they are scheduled to attend.
- Students should not alter the layout of a classroom under any circumstances from its original configuration that is designed to maintain social distancing guidelines.
- Students should remain outside the building until the passing time prior to their designated class time. Use designated campus study areas as needed.
- Consumption of food and drink is not allowed in classrooms or public areas of university buildings except for designated break areas.
- Enter the building at the designated entrances. Use the hand sanitizer as provided or your own personal hand sanitizer after entering the building.
- Follow the corridor and stairway directional signage where applicable, maintain proper social distancing and noted paths of travel.
- All physically-able students should use stairs whenever possible. If an elevator is required there should be no more than the number of occupants noted on the elevator signage in the elevator at a time, maintaining social distancing.
- All classrooms doors should remain propped open before, during, and after class if it is not disruptive. This decision is at the discretion of the instructor using the classroom.
- Students should enter the classroom at the designated entrance and fill the room by row from the first row to the last row and from the seat furthest from the entrance to the seat closest.
- Only specific seats in classrooms will be available due to social distancing requirements.
- Students should carry their own personal sanitizing wipes to ensure that they can clean surface areas including classroom stations as needed. Wipes should be disposed of after class in the nearest trash receptacle.
- Students should exit the building immediately after the class completes at the designated exit. Each student should exit the room by row from the last row to the first row and from the seat nearest the exit to the seat furthest from the exit. Students who wish to speak with the instructor after class should do so at the location that will be designated by the instructor outside the building so that the next class can get set up and social distancing can be maintained.
- Dispose of any waste after class in the nearest trash receptacle.
- Exit the building at the nearest designated exit. Use the hand sanitizer as provided or your own personal hand sanitizer after exiting the building.

**COVID Caveats:** To help keep everyone at UT and in our community safe, it is critical that students (and faculty and staff) report COVID-19 symptoms and testing, regardless of test results, to the HealthPoint Occupational Health Program (OHP) as soon as possible. Please see this [link](#) to understand what needs to be reported. In addition, to help understand what to do if a fellow student in the class (or the instructor or TA) tests positive for COVID, see this [University Health Services link](#).

## **ABOUT YOUR INSTRUCTORS:**

### **KUMAR MUTHURAMAN**

Faculty Director, Center for Analytics and Transformative Technologies  
Faculty, Department of Information, Risk, and Operations Management  
University of Texas at Austin



Kumar Muthuraman is the Faculty Director for the Center for Analytics & Transformative Technology; and is the Harkins Centennial Professor and a University Distinguished Teaching Professor at the McCombs School of Business at the University of Texas at Austin.

He received his PhD in Computer Science from Stanford University in 2003, where he was also the recipient of Stanford's prestigious School of Engineering Fellowship. His research interests are primarily in the measurement and management of risk. He has worked on an unusually broad variety of applications of analytics and technology including in finance, healthcare, operations management, insurance, and energy. He has over 40 publications in top research journals and has advised several doctoral students who are now faculty in the US, Europe, and Asia.

Kumar is a member of UT's Academy of Distinguished Teachers and has won several other teaching awards, including the Regents Award, the top teaching award in Texas. He was also voted as the best faculty the last four years in a row by students in the Master of Science in Business Analytics (MSBA) program, where he teaches courses on optimization and financial modeling and testing.

### **MICHAEL SURY**

Managing Director, Center for Analytics and Transformative Technologies  
Program Director, MSBA Financial Analytics Program  
Faculty, Department of Finance  
University of Texas at Austin



Michael Sury is the Managing Director of the Center for Analytics & Transformative Technology; and is an award-winning professor who has taught at both the undergraduate and graduate levels for over 15 years. Michael began his career working in technology in 1986, building AI programs and designing intelligent systems architectures at MCC—the noted R&D firm organized by tech heavyweights including Intel, GE, and Microsoft. Michael later worked for Lockheed Missiles & Space Co. on classified operational projects under the DoD's Strategic Defense Initiative (SDI); and IBM, where he taught and implemented statistical process control and real-time analytics for manufacturing engineering across the IBM PC production line.

After completing graduate school at the University of Chicago with High Honors, he was recruited by Goldman Sachs & Co., and served in the firm's Equities Division (Capital Markets and Equity Derivatives) and as a Vice President in the Investment Management Division. He later led one of the nation's top-ranked wealth management and institutional broker-dealer trading firms before ultimately selling his stake and entering academia. He has taught at the University of California, DePaul University, Santa Clara University, and now as a member of the faculty in the Department of Finance at the University of Texas.

At UT, he serves as the Program Director of the Financial Analytics track within the MSBA program, and as a member of the MSB Analytics Task Force. His areas of interest and expertise include portfolio management, investment strategy, and corporate finance and restructuring. He has delivered over 80 conference speeches in the US and internationally, and appeared on all four major networks (ABC, CBS, NBC, FOX) as well as in Bloomberg and CNBC for his insights and commentary on financial analytics and the capital markets.

**SHERIDAN TITMAN**

Board Member, Center for Analytics and Transformative Technologies  
Chairman, Department of Finance  
University of Texas at Austin  
Research Associate, National Bureau of Economic Research



Sheridan Titman holds the Walter W. McAllister Centennial Chair in Financial Services in the Department of Finance at the University of Texas at Austin and a Research Associate of the National Bureau of Economic Research. Sheridan's research focuses on the banking, capital markets, energy, and investment banking industries. Prior to joining the faculty at the University of Texas, Sheridan was a Professor at the UCLA, the Hong Kong University of Science & Technology, and Boston College. He spent the 1988-1989 academic year in Washington, D.C., as the special assistant to the Assistant Secretary of the Treasury for Economic Policy.

Sheridan's academic publications include both theoretical and empirical articles on asset pricing, corporate finance, and real estate and energy finance. He won the Smith-Breeden Prize for the best finance research paper published in the *Journal of Finance*, the Goldman Sachs Asset Management (GSAM) Best Research Paper Prize for the *Review of Finance*, and was a recipient of the Batterymarch Fellowship. Sheridan has served on the editorial boards of leading academic boards of leading academic journals, including for the *Journal of Finance* and the *Review of Financial Studies*. He has served as President of both the American Finance Association and the Western Finance Association, and has served as a Director of the American Finance Association, the Western Finance Association, the Financial Management Association, and the Asia Pacific Finance Association.

Sheridan has co-authored three important finance textbooks: "*Financial Markets and Corporate Strategy*," "*Valuation: The Art and Science of Corporate Investment Decisions*," and "*Financial Management: Principles and Applications*."

**NOTES**