



Course Outline v7

Predicting The Future of Technology

How Today's Fringe Becomes Tomorrow's Mainstream

COURSE #MKTG.GB.2192 SPRING 2018 (first half)

Thursdays 6:00pm – 9:00pm, Room TBD

Faculty

Professor

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Office / hours:

Slack for times/ locations on campus

Other times available for Google Hangout/ Skype

Course Background

This is the first time in human history when real, fundamental change is taking place within a single generation, and the driving force is technology. We've made a devil's pact, swapping convenience and efficiency for an ever-increasing tyranny of information and choice. Technology has forced us to either make poor decisions or none at all, and it is causing or will eventually lead to cataclysmic, unwelcome disruption. During this period of intense technological change, we focus too narrowly on value chains rather than thinking about how what we're doing fits into the bigger ecosystem.

Most people wanting to see over the horizon struggle because they rely on a hodgepodge of research reports, newspaper articles, intel from professional relationships, and intuition to make decisions. They lack an analytical way of evaluating new ideas and possible trends, in order to formulate new strategies of their own. Worse, they point to the times when forecasters have gotten it wrong, so they assume there is no way to see what's ahead. I don't need to convince you that tomorrow will look very different from today. Everyone expects to ask questions like: What technology is on the horizon? How will it impact our society? How will various industries harness the tech trend? Where does the trend create potential new business partnerships or collaborators for us? How does this trend impact our

immediate/adjacent industry and all of its parts? How will the wants, needs, and expectations of our customers and our society change as a result of this trend? How does it affect the greater good? What impact will this technology have on civilization? On distant civilizations far away from our own?

This class is designed to answer questions like these, which will only become more complicated and vital as technological innovation spreads. We will systematically explore the future in order to forecast it so that we might all make better decisions in the present. This is not a class about today's hottest trends, though I will offer deep insights into what key areas to watch. Instead, this class presents a process for identifying and acting on those trends. No technical skills are required. You don't need to be a statistician or a research scientist. The process is straightforward, intuitive, and adaptable.

Course Survey

Please complete this brief course survey before our first class: (link forthcoming)

Course Objectives

During the semester, you will learn to:

1. Understand the history of strategic foresight and the role futurists have played in shaping our companies, society and government.
2. Understand the difference between real trends and what's momentarily trendy.
3. Identify weak signals early and develop a set of trends to monitor.
4. Determine the timing of trends and how timing relates to other industries and sources of change within modern society.
5. How to create data-driven scenarios.
6. How to effectively use scenario planning within an organization.
7. How to mitigate risk and find opportunity fast using foresight models.

Required Course Materials

All of the following materials are required for this course:

1. **The Signals Are Talking: How Today's Fringe Becomes Tomorrow's Mainstream** – available at the NYU bookstore (as well as other bookstores and Amazon)
2. **Dropbox Folder** – We will use tools and articles in this class in addition to Signals. They will all be available in Dropbox during our first class. The link to this folder will be sent to you via Slack.
3. **2018 Trend Report** – available in our Dropbox folder.
4. **2019 Journalism and Media Tech Trends Report** – available in our Dropbox folder.

Required Course Technology -- Slack

I've created a Slack team for our class and will invite you to join ahead of our first meeting. If you're new to Slack, it's straightforward and easy to use on all of your devices.

Class #1

Topics	Methodology and Frameworks
A history of our future(s)	• FTI Foresight Methodology
The Paradox of the Present and our cognitive biases	• Foresight Quadrants • Time Horizon
Artificial Intelligence	• Key Stakeholders Matrix
The US and China	• Assumptions vs Knowledge
Foresight Pre-Work	

Assignments

READ Signals: Ch1 - Ch 2, Ch 3

READ Week #1 Folder (Dropbox)

GROUP WORK IN CLASS: Foresight Pre-Work. Determine the research quadrant; define the time horizon; identify stakeholders; formulate the question; outline your final project scope. (Done in your small group - completed during class). **Grading criteria:** creativity, thoughtfulness, effort.

INDIVIDUAL ASSIGNMENT: None this week.

GROUP ASSIGNMENT: Final Project Pre-Work. Outline distributed to you in class. (Done in your small group - due the following week). **Grading criteria:** thoughtfulness, effort, thoroughness. **Peer Evaluation:** You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack). Peer evaluation counts toward your grade.

Class #2

<p>Topics</p> <p>Uncovering Patterns</p> <ul style="list-style-type: none"> • Defining pattern types • Qualitative vs quantitative data in forecasting <p>Blackberry</p> <p>Connecting the Dots</p> <ul style="list-style-type: none"> • Is it really a trend? Or is it something else? • Knowing how to interrogate what you've found in the patterns. <p>Weak Signals and CIPHER</p>	<p>Methodology and Frameworks</p> <ul style="list-style-type: none"> • FTI Methodology Review • Weak Signals and Fringe Sketching • CIPHER using qualitative and quantitative methods • Asking Questions
<p>Assignments</p> <p>READ Week #2 Folder (Dropbox)</p> <p>READ Signals: Ch 4, 5, 6</p> <p>GROUP WORK IN CLASS: Weak Signals and CIPHER. (Done in your small group - completed during class). Grading criteria: creativity, thoughtfulness, effort.</p> <p>INDIVIDUAL ASSIGNMENT: Weak Signals for a topic of your choice.</p> <p>GROUP ASSIGNMENT: Final Project edits (done in your small group - due before Class #3). Grading criteria: responsiveness to edits and comments, thoughtfulness, effort, thoroughness.</p>	

Class #3

<p>Topics</p> <p>Impact and Timing of emerging tech trends</p> <p>What's really going on with Uber? Apple? Alphabet? Amazon?</p> <p>Scenario Planning</p>	<p>Methodology and Frameworks</p> <ul style="list-style-type: none"> • Scenarios Pre-Work • Patterns of Disruption
<p>Assignments</p> <p>READ Week #3 Folder (Dropbox)</p> <p>READ Signals: Ch 7,8</p> <p>GROUP WORK IN CLASS: Scenarios Pre-Work. (Done in your small group - completed during class). Grading criteria: creativity, thoughtfulness, effort.</p> <p>INDIVIDUAL ASSIGNMENT: None this week.</p> <p>GROUP ASSIGNMENT: Final Project Progress Report (done in your small group - due the following week). Grading criteria: responsiveness to edits and comments, thoughtfulness, effort, thoroughness. Peer Evaluation: You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack). Peer evaluation counts toward your grade.</p>	

Class #4

<p>Topics</p> <p>Scenario Planning</p> <ul style="list-style-type: none"> • If This/ Then That • The importance of probabilistic models in scenario planning <p>Scenario Planning</p>	<p>Methodology and Frameworks</p> <ul style="list-style-type: none"> • Scenarios Writing Framework • If This/ Then That Framework • Emotive Framings • Probabilistic Outcomes Modeling
<p>Assignments</p> <p>READ Week #4 Folder (Dropbox)</p> <p>READ Signals: Ch 9, 10</p> <p>GROUP WORK IN CLASS: Scenario Planning Workshop (done in your small group - completed during class). Grading criteria: creativity, thoughtfulness, effort.</p> <p>INDIVIDUAL ASSIGNMENT: Scenario writing. Grading criteria: creativity, thoughtfulness, effort.</p> <p>GROUP ASSIGNMENT: None this week.</p>	

Class #5

<p>Topics</p> <p>Developing strategy from scenarios</p> <p>Why so many exciting tech startups fail</p> <p>Context: The story of that time the U.S. government defunded our future</p> <p>Strategy and F.U.T.U.R.E. Test Analysis</p>	<p>Methodology and Frameworks</p> <ul style="list-style-type: none"> • Strategy Matrix • The F.U.T.U.R.E. Test
<p>Assignments</p> <p>GROUP WORK IN CLASS: Strategy and F.U.T.U.R.E. Test Analysis Workshop (done in your small group - completed during class). Grading criteria: creativity, thoughtfulness, effort. You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack).</p> <p>INDIVIDUAL ASSIGNMENT: None this week.</p> <p>GROUP ASSIGNMENT: Finish your final projects. Peer Evaluation: You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack). Peer evaluation counts toward your grade.</p>	

Class #6 - Final Projects Day!

Final Project Presentations

Presentation order for small groups will be posted to Slack later in the semester.

Final Projects are due: PDF + hard copy and presentation deck at the beginning of class. **Grading criteria:** Have you proven that you understand the tools and method taught in this class? Also looking for creativity, thoughtfulness, effort, thoroughness.

Evaluation, Wrap-Up, Next Steps

- How did we do?
- Parting gifts: resume builder, interview script, and more
- How to keep learning and using the tools of a futurist

Detailed List of Graded Assignments

Pink = in class

Purple = individual homework that is due the following week

Blue = group work to be completed before the next class

Class #1:

GROUP WORK IN CLASS: Foresight Pre-Work. Determine the research quadrant; define the time horizon; identify stakeholders; formulate the question; outline your final project scope. (Done in your small group - completed during class). **Grading criteria:** creativity, thoughtfulness, effort.

INDIVIDUAL ASSIGNMENT: None this week.

GROUP ASSIGNMENT: Final Project Pre-Work. Outline distributed to you in class. (Done in your small group - due the following week). **Grading criteria:** thoughtfulness, effort, thoroughness. **Peer Evaluation:** You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack). Peer evaluation counts toward your grade.

Class #2:

GROUP WORK IN CLASS: Weak Signals and CIPHER. (Done in your small group - completed during class). **Grading criteria:** creativity, thoughtfulness, effort.

INDIVIDUAL ASSIGNMENT: Weak Signals for a topic of your choice.

GROUP ASSIGNMENT: Final Project edits (done in your small group - due before Class #3). **Grading criteria:** responsiveness to edits and comments, thoughtfulness, effort, thoroughness.

Class #3:

GROUP WORK IN CLASS: Scenarios Pre-Work. (Done in your small group - completed during class). **Grading criteria:** creativity, thoughtfulness, effort.

INDIVIDUAL ASSIGNMENT: None this week.

GROUP ASSIGNMENT: Final Project Progress Report (done in your small group - due the following week). **Grading criteria:** responsiveness to edits and comments, thoughtfulness, effort, thoroughness. **Peer Evaluation:** You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack). Peer evaluation counts toward your grade.

Class #4:

GROUP WORK IN CLASS: Scenario Planning Workshop (done in your small group - completed during class). **Grading criteria:** creativity, thoughtfulness, effort.

INDIVIDUAL ASSIGNMENT: Scenario writing. **Grading criteria:** creativity, thoughtfulness, effort.

GROUP ASSIGNMENT: None this week.

Class #5:

GROUP WORK IN CLASS: Strategy and F.U.T.U.R.E. Test Analysis Workshop (done in your small group - completed during class). **Grading criteria:** creativity, thoughtfulness, effort. **You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack).**

INDIVIDUAL ASSIGNMENT: None this week.

GROUP ASSIGNMENT: Finish your final projects. **Peer Evaluation:** You'll get an evaluation at the end of this class to comment and evaluate your small group (Google form, posted to Slack). Peer evaluation counts toward your grade.

Class #6:

GROUP ASSIGNMENT: Final Projects are due: PDF + hard copy and presentation deck at the beginning of class. **Grading criteria:** Have you proven that you understand the tools and method taught in this class? Also looking for creativity, thoughtfulness, effort, thoroughness.

Final Project

You will develop a Future of [X] report, scenarios and strategy for a company of your choice. Assume that the company has asked you to forecast the future of X, where X is an emerging technology. Examples:

- *UnitedHealth Group wants to know how artificial intelligence will impact their business over the next 10 years.*
- *Chevron wants to know where it should make strategic investments over the next 5 years, given what we know about electric vehicles and oil.*
- *Hearst wants to develop a new profit center for a news product that can launch in the next 3 years.*

For your final project, you will work in a small group to forecast the future of a technology (like autonomous vehicles) of your choice on behalf of a company (like Ford) of your choice. Groups will be organized on the first day of class, and you will work throughout the course on mapping the future. The forecasting methodology we will be using has a series of steps which will be taught each class. I recommend that you devote some each week to applying what you've just learned to building your group's forecast. This is a good opportunity to both immediately practice and reinforce what you've learned, but to gain my feedback as you work on each step of your forecast, should you desire it.

Weeks 1-2 Deliverables:

A. Final Project Foresight Pre-Work Report: Create a written report that includes answers to the following five questions:

1. What's the problem statement? What is the company, what future do they want to know about, and why?
2. Which research quadrant are you in, and why?
3. What is your time horizon, and why?
4. Completed Key stakeholder chart
5. The question you'll be asking and answering

The report should be approximately 2 pages long.

B. Final Project edits: Responses to any questions; edits to the pre-work report.

Week 6 Deliverables (completed final project):

C. Final Report: A written report that includes the following sections. You will receive templates each class that you can use for the final project. The report should be as long as you deem necessary to *show your work*. **Use the matrices, frameworks and tools we're using in class.** I am mainly interested in understanding how well you can apply the methodologies. I will want *both* a hard copy and a PDF at the beginning of our final day of class.

1. Executive summary with a definition of the situation you're addressing, justification for that situation, the trend(s), addressable markets and industry segments you're focusing on, and key stakeholders. ~2 pages max
2. Weak signals research and Fringe sketch (repeat the Week #1 Workshop)
3. Application of CIPHER model and the patterns your group identifies (repeat the Week #2 Workshop)
4. Timing and trajectory of the tech trend -- the graph and an explanation
5. Probable, plausible and possible scenarios; emotive framings; confidence levels for each in percentages
6. Recommended strategy ~2 pages max
7. List of your sources (including all data you pulled)

Presentation Deck: A separate presentation deck built in Keynote, PowerPoint or Google Slides, which you will use during class. **You will need to email or Slack me the presentation by 12pm on our final day of class.** All presentations will load and run on one computer.

Presentation: Each group will give a succinct, 10-minute presentation on the final day of class followed by a 5-minute Q&A. Walk us through the technology trend you've identified, summarizing and showing us each of your steps. Also let us know if any of your initial assumptions about the technology proved wrong and especially if you learned something unexpected during the process. *Every member of the group should participate in the presentation.*

Grading

Grades will be determined on the following basis:

Written (homework) assignments	15%
In-class work	30%
Final project	30%
Class participation and peer review	25%
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Total	100%

I follow the NYU Stern guidelines with regards to grade distribution. I do not round up on final grades.

Instructor Policies

Attendance: README

This is an extremely intensive, hands-on class, and we go through a tremendous amount of material in each class. We only meet six times together as a group. For that reason, you should plan to attend all classes. If absolutely must be absent due to a true emergency, notify me via text, call or email before class begins (or if necessary, within two days of the missed class).

Lateness

Students are expected to arrive on time for class and to participate in discussions. Class starts at 6:00pm, at which point you should be in your seat and ready to begin.

Written Assignments, Small Group Projects and Final Project

Written assignments should thoroughly cover the material requested. In cases where you must use a forecasting tool, the tool will be provided to you in a digital format. You are free to edit the tool or to answer questions on a separate document. Be thorough and demonstrate that you have mastered the concepts being presented and that you have researched the key topic areas being discussed. Additional details about your small group project and

your final project, including the expected format, will be discussed in our first class.

How To Succeed In This Class

We cannot know for certain what the future holds. For that reason, there are no opinions or ideas that are 100% right or wrong. You should therefore feel at ease sharing your ideas and perspective with the rest of our class.

1. Those most adept at forecasting are well-read and knowledgeable about many industries and fields. Actively participating and sharing your experiences and observations will add to our collective discussion about trends.
2. Be inquisitive and ask thoughtful questions when it makes sense. If your question isn't advancing the conversation, be an active listener.
3. You must be willing to experiment with and use technologies unfamiliar to you throughout the semester. If you are not interested in technology or consider yourself a technophobe, you will not do well in this class.
4. Assignments and your final project will not be accepted past deadline. Materials must be created and shared with me either in Google Drive or via Dropbox.
5. This is a no-screens class. If you have a computer, I'll ask that you leave it closed and that you keep your mobile phones in your pocket or bag. I encourage you to take notes by hand.
6. Make sure that you've completed all readings, assignments and work and that you have uploaded any assignments before class begins. I will periodically check timestamp logs.
7. This class should be mind-bending and fun! Remember, by the end you will have learned the tools to forecast the future!

Stern Graduate School Policies

Plagiarism

I take plagiarism very seriously. I also understand that you may not understand exactly what constitutes plagiarism, so we will talk in detail during our first class. You will be given a set of guidelines to follow. Cheating and plagiarism on any assignment, quiz or exam will result in automatic failure and possible disciplinary action by the University Disciplinary Committee. When in doubt, ask me.

Students with Disabilities

Students whose class performance may be affected due to a disability should notify the professor early in the semester so that arrangements can be made, in consultation with the Henry and Lucy Moses Center for Students with Disabilities, to accommodate their needs. Please see <http://www.nyu.edu/csd>.

Academic Integrity

All students are expected to abide by the **NYU Stern Student Code of Conduct**, which reads: *"I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do."* Please see the following link for more information: <http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html>

For guidelines on grading and re-grading, please see the following link: <http://www.stern.nyu.edu/portal-partners/academic-affairs-advising/policies-procedures>