Course Outline v1

Predicting The Future of Technology
How Today's Fringe Becomes Tomorrow's Mainstream

COURSE #MKTG.GB.2192  FALL 2016 (second half)
Thursdays 6:00pm – 9:00pm, Tisch-ROOM-TBD

Faculty
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Office / hours:    TBD ROOM/ Thursdays 5:00pm – 6:00pm (email to confirm)
Other times available for Google Hangout/ Skype/ FaceTime

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 hodge-podge 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: [http://goo.gl/forms/2OX4k1HZd](http://goo.gl/forms/2OX4k1HZd)

Course Objectives
During the semester, you will learn to:

1. Understand the history of futurism and the role futurists have played in shaping our companies, society and government.
2. Understand what a trend is and what it isn’t.
3. Identify a trend as it emerges from the fringe and to track that trend along its potential trajectories to the mainstream.
4. Determine the timing of a trend and how it relates to other industries and sources of change within modern society.
5. Create a strategy to take action on a trend, and to pressure-test that strategy to ensure that you have mapped the trend correctly.
6. Develop recommendations and action plans for the “future of x” for any organization.
Required Course Materials
All of the following materials are required for this course:

1. The Futurists Reading List – available online; to be uploaded on the first day of class.
2. Additional articles by technologists and scientists – freely available online. See below for links.
3. 2016 Trend Report – to be handed out and uploaded on the first day of class.
4. 2017 Trend Report – to be handed out in December.

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.

Recommended (optional) Reading -- Twitter List + Nuzzel
I’ve created a twitter list just for this class, and it is populated with accounts that will help with your projects and case studies. You don’t need to use Twitter in order to access the posts. Go to http://www.twitter.com/webbmedia to view. If you use twitter, you can subscribe to the list at that link.

For those of you who desire an additional layer of curation, I recommend Nuzzel (http://nuzzel.com - requires a twitter account.) Nuzzel aggregates the number of shares from your friends. Once a critical mass has been reached, it will display the story.

I will post interesting research and links on Slack, and I’ll invite you to do the same throughout the course.
Final Project
For your final project, you will work in a small group to forecast the future of a technology 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.

Deliverables:
1. A written report that includes the following sections. The report should be as long as you deem necessary to show your work. I am mainly interested in understanding how well you can apply the methodologies.
   a. Executive summary with a definition of the technology trend, which industry segments it applies to and why
   b. Fringe sketch
   c. Application of CIPHER model and the patterns your group identifies
   d. Interrogation of the conclusions you've drawn from CIPHER (also known as “disads”)
   e. Timing and trajectory of the tech trend
   f. Scenarios and confidence level of each
   g. Recommended strategy
   h. Application of the FUTURE test proving out that strategy
2. A presentation deck built in Keynote, PowerPoint or Google Slides. Please save your energy for the forecasting work and report and don't spend time building visuals in Prezi or other interactive presentation software.
3. A succinct, 10-minute presentation on the final day of class. 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.
Grading
Grades will be determined on the following basis:

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<tr>
<th>Assignment Type</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Writing assignments</td>
<td>20%</td>
</tr>
<tr>
<td>In-class case studies</td>
<td>20%</td>
</tr>
<tr>
<td>Final project</td>
<td>35%</td>
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<td>Class participation</td>
<td>25%</td>
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Total 100%

Instructor Policies
Attendance/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. Because we are not using a textbook, lectures, discussions and in-class case studies will be essential for you to complete assignments and your final project. If you must be absent due to an emergency, notify me via text, call or email before class begins (or if necessary, within two days of the missed class). Plan to attend all classes. Unless there is a true emergency, there will be no make-ups for missed in-class assignments.

Written Assignments, Small Group Project 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 distributed in 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. We will use hand gestures during group discussions. It will seem strange at first, but you'll find that it helps us accomplish more as a group. I will explain these gestures on the first day of class and we will use them throughout the course.

4. 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.

5. 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.

6. This will be 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.

7. 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.

8. 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 for more information.

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
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<tr>
<th>Session</th>
<th>Topic</th>
<th>Tools Introduced</th>
<th>Assignment</th>
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| 1       | **Introduction**  
  • History of futurism as a discipline  
  • Context: Where's my Jetsons car? The story of why we've been predicting a flying car since the 1930s.  
  • The Paradox of the Present  
  • Defining the four kinds of futures  
  **Methodology**  
  • The forecasting funnel  
  **Case Study Discussion:** The story of the Sony hack: could they have seen it coming?  
  **What, exactly, is a trend?**  
  • Context: The story of how DEC missed the personal computing trend and went out of business as a result.  
  **The Fringe**  
  • Context: The story of CRISPR, the invention of pharmaceuticals and biohackers experimenting with their own form of medicine.  
  • Casting a wider net, looking for the unusual suspects |  
  • Time Zones  
  • The 10 Modern Sources of Change  
  • Fringe Sketch  
  • Leading Questions  
  • Assumptions vs Knowledge  
  **In-class small group exercise:** mapping a fringe sketch for the future of the New York Times’ audience. |  
  **Signals:** Introduction - Ch 2, Ch 3  
  **Toffler:** Future Shock Summary (Futurists Reading List)  
  **Futurists Reading List:** prediction essays from the past 100 years  
  **Written:** Create a fringe sketch for the future of a company of your choice  
  **Readings:** Your fringe sketch assignment must be backed up by facts, so you’ll want to deeply research the company and its adjacent industries/players.  
  **Final Project:** assignment requirements are handed out and discussed |
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| 2       | Uncovering Hidden Patterns  
• Context: What was Google doing? And what are they really doing now?  
• Defining pattern types  
• Qualitative vs quantitative data in forecasting  
People vs Algorithms  
• Context: The story of Kennedy’s Moonshot and why an algorithm would have gotten it wrong  
Connecting the Dots  
• Context: What is Uber really doing...and why?  
• Is it really a trend? Or is it something else?  
• Knowing how to interrogate what you've found in the patterns. | • CIPHER’s Six Pattern Types  
• Disads: interrogation questions for a possible trend | Written topic pitches for final project due:  
Mapping the future of X.  

List/ Hayashi: The Information-Centered Society (Futurists Reading List)  

Signals: Ch 4  

List/ Clarke: The Hazards of Prophecy (Futurists Reading List) |
| 3       | Impact  
• Context: The story of futuristic neural network crimes.  
• Just because you've identified a trend, should it be pursued?  
• How can you determine the longer-lasting impact of your actions in the present? | • The Impact Matrix  
• The Five Why’s | List/ Corso:  
Introduction to Pattern Recognition (Futurists Reading List)  

Signals: Ch 5, 6 |
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<td>3 - cont.</td>
<td><strong>The S-curve</strong>&lt;br&gt;• Context: The story of Foursquare, Gowalla and SCVNGR&lt;br&gt;• The difference between Silicon Valley time and actual time in the real world&lt;br&gt;• Forecasting isn't linear, but it does follow one of a few possible S-curves</td>
<td>• The S-curve: timing and trajectory&lt;br&gt;• Scenarios</td>
<td><strong>Carr</strong>: The Messy Business of Reinventing Happiness (online)&lt;br&gt;<strong>Signals</strong>: Ch 7, 8</td>
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<td><strong>Trends Into Action</strong>&lt;br&gt;• Context: The story of how People Magazine built an app for the wrong audience&lt;br&gt;• Introduction of the Trends Map tool</td>
<td>• Trends Map&lt;br&gt;• <strong>In-class case study</strong>: building out a retroactive trends map for People Magazine</td>
<td><strong>Signals</strong>: Ch 9, 10, 11&lt;br&gt;<strong>Hawking</strong>: Does God Play Dice? (online)&lt;br&gt;<strong>Written</strong>: Create a trends map for the trend of your choice.</td>
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<td><strong>Chaos and Chance</strong>&lt;br&gt;• Context: The story of the end of the Bio Hand&lt;br&gt;• Chaos theory and forecasting&lt;br&gt;• Seeing around corners like retired technology, natural disasters and capricious executives</td>
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<td>Pressure-Testing The Trends</td>
<td>• The FUTURE Test&lt;br&gt;• <strong>In-class case study:</strong> Trends map for the future of [topic to be selected by students]</td>
<td>Finishing your final project.</td>
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<td>• Context: The story of that time the U.S. government defunded our future&lt;br&gt;• How to poke holes in trends and the strategy you create around them&lt;br&gt;• The F.U.T.U.R.E. Test</td>
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<td>Final Projects</td>
<td>• <strong>In-class final project presentation.</strong></td>
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<td>• Small group project presentations. (10 minutes per group)</td>
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<td><strong>Applying What You’ve Learned</strong></td>
<td>• How to apply what you've just learned to your current and future jobs. How to describe your new skills on your resume and in interviews.</td>
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<td><strong>The Future of The Future</strong></td>
<td>• Final theoretical discussion: the year 2026, 2036, 2046</td>
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