

**Exponential Business 2018.**

# **TECHNOLOGY & INNOVATION CURRICULA**

- ✓ Based on SU's Executive Program Curricula



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## 01. Understanding Exponentials

**We are local and linear thinkers in a global and exponential world.**

At the EB, we'll discuss:

1. What is exponential growth?
2. How this growth is driven by Moore's Law.
3. What does exponential growth feel like? What are examples to help us understand this and teach it to our organization?
4. The 6 D's framework of exponential growth: Digitized, Deceptive, Disruptive, Dematerialization, Demonetization, and Democratization.
5. How might your core products and services get disrupted, dematerialized and demonetized?

*Exponential thinking allows you to comprehend the growth of rapidly changing technologies. This will allow you to predict how technologies are evolving, so you can "skate to where the puck will be" versus where it is now.*

## 02. Artificial Intelligence, Machine Learning, Big Data

**Understand and explore the AI landscape.**

At the EB, we'll discuss:

1. AI capabilities are exploding and the increasing implications to business are enormous.
2. AI is now over 50 years old, and is embedded in everyday life.
3. Applications include medicine, engineering, art, transportation, logistics and finance.
4. How Watson has moved beyond Jeopardy into medicine and finance and what this and other AI solutions mean for business.
5. Uncertainties concerning when computers will match various capabilities of the human brain.

*We will explore these issues and more while providing you with a clearer understanding of how AI & Data Science will become an increasingly important part of the world of Business.*

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## 03. Robotics & Future of Work

**Robots have the potential to completely remake the global labor force.**

At the EB, we'll discuss:

1. New developments in robotic technologies open up many doors for businesses that embrace them, and will hurt many companies that don't.
2. Discover what sectors are being disrupted by robotics.
3. How smart machines become mobile and far more intelligent.
4. Major opportunities and implications that robotics have for industries and how breakthroughs are expected to transform the economy.
5. Why companies like Google are making massive bets on Robotics.
6. Applications in home, transportation, medicine, security, internet, entertainment and other areas.

*We will provide an overview of robotics technology, the far-reaching impact this technology is having throughout the world, and how what is coming will change business globally.*

## 04. 3D Printing & Digital Manufacturing

**Additive manufacturing is creating entirely new industries.**

At the EB, we'll discuss:

1. With applications ranging from cars, décor and consumer products to custom implants, jet engines and hearing aids—3D printing is revolutionizing product design and supply chain management, and opening a world of possibilities for businesses.
2. In the last two years, the technology has become available to consumers, finding its way into homes, middle schools and garages through 3D printers and cloud printing.
3. How major advancements in the last year alone have redesigned supply chains, impacted IP and liability issues, and reduced working capital needed to fuel manufacturing, not to mention innovation.

*In this session we will understand how 3D Printing is transitioning from deceptive to disruptive and impacting a \$10 trillion industry.*

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## 05. Self-Driving Cars

### **Self-driving cars are no longer science fiction.**

At the EB, we'll discuss the trillion-dollar impact of autonomous vehicles:

1. Human beings are pretty bad drivers. 1.2 million people are killed on the roads every year.
2. What happens when computers and cars are merging.
3. How autonomous vehicles will change energy, pollution, cities, transit, war, work, real estate, retail and manufacturing.
4. How we can enable the electric car, save the planet and millions of lives using near-term A.I. to make taxis and trucks deliver, park, recharge and drive themselves.
5. Barriers, Enablers, Economics and Implications for business and companies.

*In this session we will understand why robocars are much closer to becoming reality than many people realize and why technology-wise -- it's a question of when, not if.*

## 06. Digital Medicine & Genomics

### **The world of health and medicine is changing at amazing rates.**

1. Understand the explosion of digital information and potential for distributed healthcare.
2. Learn how to stay abreast of these changes and where do the opportunities lie.
3. From mobile health and wearable sensors to artificial intelligence and personal 'omics, we will explore implications for personal health, workforce health and the corresponding areas of emerging investment opportunity.
4. Human enhancement: exoskeletons, robotic limbs, minimally invasive medical devices, robotic surgery, designer drugs, artificial and 3D printed organs.
5. How genomics has been transformed into a digital information technology: faster, easier, and cheaper to do year over year

*We will review the advances and shifting dynamics of these technologies. We'll look at the trajectory (i.e. the cutting edge where will many of these technologies be in 2-5 years) and convergence of fast moving technologies from across the biomedical and biotech spectrum, with potentially world-changing ramifications.*

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## 07. Designing a Breakthrough

### **Attract epiphanies and eureka moments.**

At the EB, we'll discuss:

1. Access to technological opportunities is becoming increasingly easy.
2. Thanks to the collaboration the internet has made possible and the open innovation it has spurred, we live in a world where ideas and solutions are abundant.
3. The main challenge facing companies today is how to take advantage of this wealth of opportunities.
4. Being first to launch a new technology is less important than being first to envision its greatest untapped market potential.
5. Brainstorm, cross-fertilize and mesh-up ideas in a breakthrough yourself.

*Practice how exponential technologies might be employed, synthesize ideas for products that could be tested with customers.*

## 08. Exponential Ethics

### **Focus on the ethical aspects of ExTech.**

At the EB, we'll discuss:

1. During times of change, there is often no clear moral compass to guide leaders through complex conflicts about what is right or wrong. Continuing attention to ethics sensitizes leaders to how they want to act consistently.
2. What ethical issues do exponential technologies and their applications raise for humans, our civilization, and our planet?
3. Very soon humanity is going to coexist with a totally new class of technological artifacts: robots. It will be an event rich in ethical, social and economic problems.
4. What are the ethical implications of commercializing artificial intelligence.

*No guidelines have yet been developed for ethics in the exponential era. Will humanity evolve fast enough to fulfill its increasing responsibilities?*

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## 09. Exponential Organizations: Transforming Your Company

**Turn your linear business to a 10x performing exponential organization.**

1. In 10 years, it's predicted that 40 percent of the Fortune 500 companies will no longer exist. Are you running a linear company?
2. The Exponential Organization Equation:  $MTP + IDEAS = SCALE$
3. (Internal Attributes) IDEAS: Interfaces, Dashboard (metrics), Experimentation (process iteration/risk), Autonomy (small teams/distributed authority), Social (collaborative tech), MTP = Massive Transformative Purpose
4. (External Attributes) SCALE: Staff (on demand), Community/Crowd, Algorithms (data mining), Leased Assets (on-demand assets), Engagement (incentive competitions)
5. How can you build a business with these principles? How could you apply them to a mid-market company? How can you retrofit these ideas into large organizations?

*Kodak was a linear company that went bankrupt in 2012, put out of business by digital imagery. In contrast, Instagram is an exponential company in the digital imagery business, purchased in 2012 for \$1 billion with only 13 employees. How do you organize your company or your industry so you don't become the next Kodak? How do you position yourself to leapfrog the status quo?*

## 10. Designing an Incentive Competition

**Get the most brilliant people competing to solve your problem. Incentive prizes can boost your strategy.**

1. Prizes attract the most brilliant people around the world to solve your problem.
2. Teams spend 10x to 50x the amount of a prize purse to try and win.
3. Prizes work at different scales: inside your company, your community, in your industry or around the world.
4. Prizes bring you unexpected, innovative and breakthrough results. You pay the winner after they succeed.
5. Gain knowledge on how an incentive competition helps frame problems in a powerful way that motivates innovators to want to solve your problem and create a breakthrough.

*XPRIZE has designed and operated about \$100 million in competitions that have driven billions in benefit. During this session you will design your own competition ready to launch on a turnkey platform within 30 days.*

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## 11. Twelve Industries Ripe for Disruption

### **The nature of competition has changed.**

At the EB, we'll discuss:

1. How Christensen's "disruption theory" frameworks have themselves been disrupted.
2. Technologies are advancing so rapidly that most industry leaders will be fighting for survival before they know it. The challengers will come out of nowhere, possibly from start-ups in other industries.
3. How these industries might be disrupted: Agriculture, Construction - Real Estate, Consulting, Consumer Goods, Education, Energy, Entertainment/Media, Finance, Healthcare / Pharma, Manufacturing, Retail, Telecom and Transportation.

*Companies under pressure from technological change need for their CEOs to be visionaries who can see the big picture and cause change, company-wide. The winners will be the ones who realize the change and take the risks necessary to keep reinventing themselves.*

## 12. Exponential Strategies

### **Figure out how to thrive, not only survive. Achieve accelerating returns.**

At the EB, we'll discuss:

1. How can your company maximize upside potential, minimize investment and compress lead times.
2. How to create long-term structural advantage in your market or industry while at the same time achieving significant leverage by mobilizing others.
3. Understand and leverage the power of narratives. Learn how narratives will make the difference between companies that crumble and companies that grow stronger.
4. Learn how to circumvent the political or organizational resistance that can hamper change initiatives.

*Leverage new disruptive technologies as well as the firm's extended business ecosystem to get more done with less, reaching maximum impact as quickly as possible for major change initiatives.*



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## 13. Exponential Strategies Workshop

**With competitive intensity doubled and brand disloyalty on the rise...**

In this workshop you will design:

1. An edge of your business that has the potential to scale aggressively.
2. A shaping strategy to create and capture enormous value, orchestrate a business ecosystem where all the participants benefit as they learn from—and share risk with—one another.
3. A winning strategy, understanding where to play and how to win
4. An opportunity based narrative that will become the foundation that will drive your business success.

*Companies cannot simply rely on tweaking core products to create sustainable growth. Those who master exponential strategies will be able to harness increasing returns while those who don't will remain trapped in the purgatory of diminishing returns until the inevitable collapse.*

## 14. Exponential Innovation

**Creating a culture of innovation.**

1. Let's be clear: how you think matters. Surrounding yourself with people who think boldly and abundantly can make or break your dreams and your company.
2. For many years, executives equated innovation with the development of new products.
3. But creating new products is only one way to innovate, and on its own, it provides the lowest return on investment and the least competitive advantage.
4. Companies that integrate multiple types of innovation will develop offerings that are more difficult to copy and that generate higher returns.
5. What are the mindset tools for positive, abundance and bold thinking?

*In this session we will learn how to innovate inside corporation, how to form innovative teams and how to have a pipeline of great world changing ideas.*



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## 15. Moonshot Thinking

### Understand why, when and how 10X is easier than 10%

1. Moonshots live in the grey area between audacious projects and pure science fiction; instead of mere 10% gains, they aim for 10X improvements.
2. The combination of a huge problem, a radical solution, and the breakthrough technology that might just make that solution possible is the essence of a Moonshot.
3. Moonshots require an innovative mindset, including a healthy disregard for the impossible--while still maintaining a level of practicality.
4. They don't show results immediately, they take enormous persistence and willingness to take substantial risks over long periods of time.
5. How to avoid Failures of Imagination.

*"If you're not doing some things that are crazy, then you're doing the wrong things." - Larry Page. Do you have a multidisciplinary team to help you attack moonshots and solve problems for your customers?*

## 16. Forecasting Amid Rapid Change

### Don't be afraid to leave the uncertainty in your forecasts

At the EB, we'll discuss:

1. Understand the 4P's: Possible, Plausible, Preferable, Probable.
2. A forecaster's job is not to predict outcomes, but to map the "cone of uncertainty" on a subject.
3. Uncertainty is cone-shaped because it expands as you project further into the future. Where are the edges of what might happen?
4. Understand how wild cards sensitize us to surprise, and they push the edges of the cone out further.
5. Look for cross impacts: Be aware of how driving forces interact. Some amplify one another, others tend to damp out one another.

*Forecasting can help businesses plan for an uncertain future by identifying market forces, possible outcomes, and where you might be able to anticipate, influence, and profit from the inexorable flow of events*

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## TECHNOLOGY & INNOVATION CURRICULA

### DAY 1

1. Understanding Exponentials
2. Artificial Intelligence, Machine Learning & Big Data
3. Robotics & the Future of Work
4. 3D Printing & Digital Manufacturing

### DAY 2

5. Self Driving Cars
6. Digital Medicine & Genomics
7. Designing a Breakthrough
8. Exponential Ethics

### DAY 3

9. Exponential Organizations
10. Designing an Incentive Competition
11. Twelve Industries Ripe for Disruption
12. Exponential Strategies

### DAY 4

13. Exponential Strategies Workshop
14. Exponential Innovation
15. Moonshot Thinking
16. Forecasting Amid Rapid Change

During these 4 days, each participating company will identify 2-3 concrete opportunities for revolutionizing their industries.

Space in Exponential Business is limited and by invitation only.