University of Maryland Robert H. Smith School of Business and ATARC

Certificate in Principles and Tools for Cybersecurity IT Leaders

Course Duration: Sept 2020 – March 2021
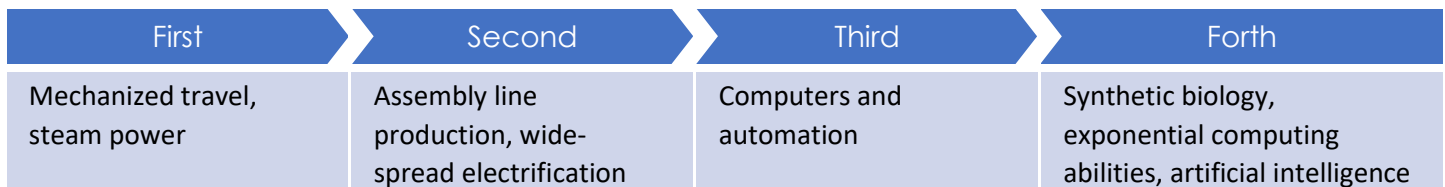
Course Location: Virtual Live Learning Program

Lead Faculty: Rajshree Agarwal

Continuing Education Credit hours: 6

Course Goal/Description: This course is divided into six discrete thematic modules totaling 75 contact hours. It provides IT leaders in industry and government with a solid grounding in the latest thinking on core business tools and principles. The courses, taught in a collaborative, active learning style by faculty and industry leaders, present the latest research and thinking, and cases showing how these ideas are being applied to address challenges and create opportunities in the IT industry. The outcome is an understanding of how to lead an organization based on an analytical assessment of emerging industry trends; an aptitude for embracing and managing change; an appreciation for continuous learning and teamwork.

Background: The 4th Industrial Revolution (also called 4IR or Industry 4.0) has been defined by the World Economic Forum and others as a time of rapid technological change. Current technological discovery and its impact on society is largely perceived of as happening at a quickened rate. IT leaders in industry and government are struggling with how to adapt their business models in a risky and rapidly changing landscape and how to develop and retain talent.

Industrial Revolutions

First	Second	Third	Forth
Mechanized travel, steam power	Assembly line production, wide-spread electrification	Computers and automation	Synthetic biology, exponential computing abilities, artificial intelligence

Learning Objectives: At the end of the course the students will be able to:

1. Apply tools and methodologies to analyze their organization's place in a constantly changing landscape, including leadership strategies talent development for lifelong learning.
2. Apply tools and methodologies to assess critical IT technologies and create plans to manage them to realize efficiencies.
3. Understand which industries are undergoing disruption, the what is the timing and nature of these disruptions, and current regulatory and legal implications of blockchain, biotech, AI and big data.

Expectations for Each Class Meeting: Bring your phone or computer to each class since we use them in applied exercises.

Module Title	Description
1. The CEO of My Enterprise (ME), Inc.	Provides you with foundational tools to undertake regular and meaningful reflection on your purpose and goals. As a leader, it also shows you how to help others pursue their purpose in an organization. **Learning Objectives:** By the end of this module you will be able to identify your personal mission and strategy and create a path toward your own strategic successes: • Develop your mission, define your abilities and aspirations and identify your value proposition • Use SWOT analysis and TWOS matrices to gain a better understanding of strategic choices • Develop a personal leadership plan and learn how to foster continual growth
2. Core Tools for Strategy and Change Management	Shows you how to analytically and holistically evaluate and reflect on your organization's place in a constantly changing landscape. **Learning Objectives:** By the end of this module you will be able to use specific analytical tools or frame works to answer the following questions concerning any firm: • Appropriately use information to assess how well the firm is doing over time and relative to its peers • Describe the firm's strategy and assess whether the strategy is appropriate • Propose changes to the strategy to enhance, maintain or turnaround the performance of the firm

Module Title	Description
3. Strategic and Transformational IT	Strategic and Transformational IT will help you assess the most critical technologies that affect your business sector and how you can manage them to realize efficiencies. We'll discuss when and how to appropriately commoditize the data these technologies produce and ultimately, how the strategic deployment of technology can transform an organization. **Learning Objectives:** By the end of this module you will be able to: • Evaluate executive IT decisions • Understand how an IT strategy may be better aligned with a business objective • Evaluate new IT opportunities • Understand the dynamics of incumbent versus entrant competition in the IT context • Understand the forces of innovation on IT strategy • Develop IT strategies that take advantage of the digital transformation
4. IT Mergers and Acquisitions	Focuses on general principles of M&A as they are applied specifically for IT companies. Leveraging research, we discuss overall trends, what has worked, and what has not. Then we take a deep dive to meet Industry experts who have projects to glean real-world learning outcomes. **Learning Objectives:** By the end of this module you will be able to: • Understand M&A as a strategy and method of corporate growth • Understand how geopolitical and capital market funds affect M&A • Understand the legal and regulatory aspects of M&A
5. Leading in the 4th Industrial Revolution	Provides a basic level of technical knowledge in blockchain, synthetic biology, AI and big data and the hard and soft skills needed for success in industries impacted by these technologies. **Learning Objectives:** By the end of this module you will be able to: • Identify the most likely scenarios for technological discovery and implementation in the next 25 years and their disruptive impact on industries • Apply tools to asses ethical issues arising from these trends • Consider human capital impact to your organization regarding recruitment, re-skilling and upskilling

Module Title	Description
6. Cybersecurity and Privacy in IT	Examines pressing questions for an IT company: creating and implementing appropriate tools and strategies for security and data privacy. We will leverage research looking at where threats are coming from and why. Then we will take a deep dive and meet experts from the government and industry who will share leading-edge information. **Learning Objectives:** By the end of this module you will be able to: • Gain an overview of threats from hackers, state-supported bad actors and terrorists • Identify organizational risks, vulnerabilities and hardware and software tools to address them • Examine social and privacy impacts of cybersecurity and monitoring regimes