

Proposal for New Course		
Course Number	:	MB521
Course Name	:	<i>Disruptive Technologies for Data Science</i>
Credits	:	2-0-0-2 (L-T-P-C) ¹
Prerequisites	:	NA
Intended for	:	MBA
Distribution	:	Compulsory
Semester	:	

Preamble
<p>Disruptive Technologies for Data Science are innovations that enable businesses to create new market and disrupt the existing market by significantly altering the way consumers, industries, or businesses operate. Further, the exponential growth of these technologies have the potential to create new product infrastructure by impacting the growth and employment. This course deals with the technologies used to transform business and society, also known as fourth industrial revolution technologies. Students can learn how these technologies changing the way business decisions are made across the globe to transform business, industries and ultimately, our lives.</p>

Objective
<p>Upon successful completion of the course, students will be able to:</p> <ul style="list-style-type: none">● Grasp the characteristics of disruptive technologies and understand the building blocks of disruptive technologies● Understand how the technology is significantly improving our living standards by incorporating radical changes in the way the business is running.

¹ L= Lectures per week, T=Tutorials per week – P = Practical/Lab session per week – C = Credits for course

Course Modules with Quantitative lecture hours		
Module 1	Overview of Disruptive Technologies	(5 sessions)
Waves of Technology evolution; Digitization and digitalization; Digitalization and disruption; Disruptive innovation; The waves of internet and related technological advancements; Networks, 5G and sensors.		
Module 2	Computing Technologies	(3 sessions)
Moore's Law and its impact, miniaturization of computers, Quantum computing and its prospects in business.		
Module 3	Artificial Intelligence	(4 sessions)
Concepts of Artificial Intelligence (AI), Integrating AI into human world, AI and robotics, virtual and augmented reality, Impact of AI and robotics in business, AI Entrepreneurs, AI Disruption.		
Module 4	Blockchain and Bitcoin	(3 sessions)
Blockchain concepts, Blockchain and Coded currency, Blockchain and Enterprise, Blockchain as a technology of trust, Blockchain driving the business and beyond.		
Module 5	Internet of Things and Cloud Computing	(4 sessions)
Evolution of Internet of Things, Economic Impact of IoT, IoT as a revolutionary technology, IoT Challenges, risks and dangers; Internet of Things to Internet of Everything, Basics of cloud computing, Cloud computing and web 2.0, Ways to cloud compute and its business benefits, Personal cloud, Edge computing.		
Module 6	Multidimensional Printing	(2 sessions)
Additive and subtractive manufacturing, Decentralizing and disrupting manufacturing, Mass customization, Barriers to additive manufacturing.		
Module 7	Nanotechnology	(2 sessions)
New materials and their applications, nanotechnology initiatives.		

Module 8	Biotechnology and Neurotechnology	(3 sessions)
Importance of biotechnologies and neurotechnologies, Biotechnology applications in the fields of medicine to manufacturing, workings of neurotechnologies and their impact.		
Module 9	Clean Energy Technology and Geo Engineering	(2 sessions)
Clean energy, and its distribution and storage technologies, Geo engineering and global warming.		
Textbooks:		
Reference Book:		
1.	Klaus Schwab, Shaping the Future of the Fourth Industrial Revolution, Penguin Random House, 2018.	
2.	Daniel Franklin, Megatech: Technology in 2050, Profile Books Ltd, (The Economist), 2017.	
3.	Steve Case, The Third Wave, Simon & Schuster Paperbacks, 2016	
4.	Christopher Barnatt, A Brief Guide to Cloud Computing, Constable & Robinson Ltd., 2010.	
5.	Peter H. Diamandis and Steven Kotler. The Future is Faster Than You Think: How Converging Technologies are Transforming Business, Industries and Our Lives, Simon & Schuster Paperbacks, 2020	
6.	Peter Thiel, Zero to One: Notes on Startups or How to Build the Future, Penguin Random House (Virgin Books), 2014.	
7.	Jean-Marie Dru, The new Ways to New, Wiley India Pvt. Ltd, 2015	
8.	Clayton M. Christensen, The Innovator's Dillema, Collins Business Essentials, 2006	
9.	Peter H. Diamandis, Steven Kotler, Bold: How to Go Big, Create Wealth and Impact the World, Simon & Schuster, 2015.	
10.	Henry Chesbrough, Open Innovation: The New Imerative for Creating and Profiting from Technology, Harvard Business School Press, 2006.	
11.	Daniel Kellmereit, Daniel Obodovski, The Silent Intelligence: The Internet of Things, DnD Ventures, 2013	

12.	Alec Ross, The Industries of the Future, Simon & Schuster UK Ltd., 2016
13.	Jamie Bartlett, The People vs. Tech: How the Internet is Killing Democracy, Penguin Random House, 2018