TOYOTA PRODUCTION SYSTEM

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Department of Management
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TYPE OF COURSE : New | Elective | PG/UG
COURSE DURATION : 8 weeks (26 Aug’19 - 18 Oct’19)
EXAM DATE : 16 Nov 2019

PRE-REQUISITES : Production and Operations Management
INTENDED AUDIENCE : Industry people who wants to use “operations” for competitive advantage,
Students doing research in operations management, Students doing Masters and Bachelors
degrees in area of operations management, Industrial engineering etc,Professionals who are
interested in knowing the best practices in operations.

INDUSTRIES APPLICABLE TO : This course will be highly useful for manufacturing
organizations.Particularly companies such as Hero, Maruti, BHEL, Rockman, Bajaj, Tataetc.

COURSE OUTLINE :
Manufacturing is one of the important activity for wealth generation. Countries like China, Thailand,
Vietnam etc are creating an enabling environment for developing these nations as major industrial
ones. Therefore, there is an increasing interest in manufacturing activities. Toyota car company at
Japan is a very interesting case study to learn many things to make manufacturing competitive. Toyota
consistently raises the bar for manufacturing, product development, and process excellence. The result
is an amazing business success story: steadily taking market share from price cutting competitors,
earning far more profit than any other automaker, and winning the praise of business leaders
worldwide. The proposed course will discuss various aspects of Toyota’s approach and will also focus
achieve sustainability through excellence in operations.

ABOUT INSTRUCTOR :
Prof. Rajat Agrawal is a member of faculty (Associate Professor) at Department of Management
Studies, Indian Institute of Technology, Roorkee .He is also associate faculty member at Center
of Excellence for Disaster Mitigation and Management and Center of Excellence for
Transportation Management, IIT Roorkee. He administers various initiatives of IIT Roorkee in the field
of IPR, incubation and entrepreneurship in different capacities. He initiated incubation centre at IIT
Roorkee.He is cocordinator of Design innovation centre at IIT Roorkee.

COURSE PLAN :
operational Excellence as a strategic weapon ,The Heart of the Toyota Production System:
Eliminating Waste
Week 2: The 14 Principles of the Toyota Way: An executive summary of the culture behind TPS, Toyota
Way in action, Long Term Philosophy, Create continuous process flow Pull system to
avoid over production
Week 3: Levelling Workload (Heijunka) , Getting quality right the first time , Standardization of
the task , Use of Visual Control , Use of reliable technology
Week 4: Role of Leaders in Manufacturing Philosophy, Develop Exceptional Teams, Challenge and
respect extended networks ,See yourself to understand the situation Developing decisions with
consensus
Week 5: Become a learning organization, Continuous Improvement , Using the Toyota Way to transform
technical and service organizations, Lean Manufacturing, Lean, Agile and Sustainable
Manufacturing
Week 6: Flexible Manufacturing System , Benchmarkin, Business Excellence Awards,
Kanban Approach in manufacturing , Kanban Calculations
Week 7: The Significance of Lead Time , Techniques to reduce Lead Time, Cultural issues in Lean ,
Overview of Lean implementation, Takt Time, Spaghetti Diagram and Value, Stream Mapping
Week 8: A critical and comparative analysis of various philosophies, Planning and Goals:
Hoshin-Kanri Planning, Constraint Management, Assessment Tools, Lean House