MGT 205: Operations Management

Credits: 3
Lecture Hours: 48

Course Objective

This course aims to impart the basic knowledge, tools and techniques of operations management to students.

Course Description

Introduction to operations management. Operations strategy, Product and service design, Location decision and facility layout, linear programming , Aggregate planning , Inventory management and The quality system.

Course Details

Unit 1: Introduction **LH 6**

Meaning ,definitions, and objectives; The transformation process; Differences between production and service operations; Scope of operations management; Operations and supporting functions; Role of the operations manager; Production system: Intermittent and continuous; Key issues for operations managers; Historical evolution of operations management; Productivity: concepts, types , factors affecting productivity; Productivity measurement, concept on green productivity; Supply chain management (concept only).

Unit 2: Operations Strategy **LH 3**

Introduction to operations strategy; Operations strategy as a competitive weapon; Linkage between corporate, business and operations strategy; Components of operations strategy; Manufacturing strategies; Service strategies.

Unit 3: Product and Service Design **LH 5**

Concept on product and service design; Product development process; Difference between product and service design; Emerging issues in product and service design; Value analysis, concurrent engineering and quality function deployment; Waiting line theory (Single channel only).

Unit 4: Locations decision and Facilities layout **LH 5**

Reasons and Importance of location decisions; Factors affecting location decision of service, and manufacturing organizations; Techniques of location analysis: Qualitative and quantitative analysis; Concept on layout; Types of layout: Product layout , process layout , cellular layout , fixed position layout; Designing process layout.

Unit 5: Linear programming **LH 10**

Introduction to linear programming; Graphical and simplex method; Introduction to duality and sensitivity analysis by using solver; Assignment model (only minimization case); Transportation model (Only minimization case: excluding loop formation).

Unit 6: Aggregate planning **LH 4**

Concept on aggregate planning; Aggregate planning strategies; Planning options; Aggregate planning in services.

Unit 7: Inventory Management **LH 4**

Concept and importance; Inventory costs; Dependent and independent demand; Inventory systems- continuous and periodical; Basic EOQ Model (with and without discount); ABC classification.

Unit 8: The Quality System **LH 8**

Introduction to quality; Historical evolution of Total Quality Management; Definitions of quality; Philosophy, principles and concepts of Total quality management. Costs of quality; Quality Control: Introduction, objectives, advantages; Statistical process control -Control charts- control charts for variable and attributes; JIT and Six Sigma; Quality Management System: ISO 9000 series; 7 tools for the quality.

Addendum: At least one case will be administered at the end of each chapter. The students will also complete a project work and a few other assignments as specified by the faculty member.

Class Lecture = 45 hrs.

Tutorials = up to 15 hrs.

Assessment = 3 hrs.

Reference Books

Adam and Ebert (2007), ***Production and Operations Management,*** Fifth Edition, New Delhi: Prentice-Hall of India Private Limited

Bajracharya P., Bajracharya S. and Maharjan B. (2007), ***Production and Operations Management,*** First Edition, Kathmandu: Quest Publication

Chase,Jacobs,Aquilano and Agrawal (2006), ***Operations Management for Competitive advantage,*** Eleventh Edition, New Delhi: Tata McGraw-Hill Publishing Company Limited

Dahlagaard Jens. J,Kristensen K and Kanji G.K. (2002),Fundamentals of Total Quality Management Process analysis and improvement , London and New York: Taylor and Francis

Gaither and Frazier (2002), ***Operations Management,*** Ninth Edition, Singapore: Thomson Asia Pte Ltd.

Krajewski and Ritzman (2002), ***Operations Management,*** Sixth Edition, Delhi: Pearson Education (Singapore) Pte.Ltd

Manandhar, K.D. and Shrestha, K.N. (2000) ***Production and Operations Management,*** Kathmandu: Valley Publishers

Regmi, Joshi, Chaudhary and Fago (2003), ***Production and Operations Management,*** Second Edition, Kathmandu: Buddha Academic Enterprises Pvt.Ltd.

Shrestha, S. and Silwal, D. (2000), ***Production and Operations Management***, Kathmandu: Taleju Prakashan

Stevenson W.J. (2014). ***Operations Management,*** Twelfth Edition, New York: McGraw-Hill Education

Sthapit, Yadav, Tamang, Dhital and Adhikari, (2007), ***Production and Operations Management,*** Second Edition, Kathmandu: Asmita Books Publishers &Distributors