DS 412 – Operations Management
Undergraduate Curriculum Committee Course Outline
DS 412 - Course Outline

I. COURSE NUMBER AND TITLE: DS412: Operations Management

II. COURSE DESCRIPTION: DS412 (Operations Management) is a 3 unit class that entails the following: Management of manufacturing and service operations. Use of computer-based models. Use of computer-based models. Forecasting, capacity planning, linear programming, inventory management, quality management, and project management.

III. PREREQUISITES: upper division standing and a C- or better in the following 3 classes or equivalents:

- DS 110 or MATH 110 or MATH 108 or MATH 226 (Business Calculus)
- DS 212 (Business Statistics)
- ISYS 263 (Introduction to Computer Systems)

IV. LEARNING GOALS: The purpose of this course is to introduce the student to the typical problems and topics associated with the management of manufacturing and service operations; the proper analysis of those problems; and their practical implications. The student should be able to:

A. Understand and apply the basic concepts of operations management to practical situations.
B. Use relevant quantitative techniques to analyze and solve operations management problems as follows:
   1) Recognize and justify the appropriate technique to apply.
   2) Execute the appropriate calculations competently.
   3) Interpret the result, considering whether it makes sense, and then communicate appropriate recommendations as appropriate to the business context.
C. Employ appropriate computer software to obtain solutions to operations management problems.

BSBA Learning Goals, as shown in Appendix B, were significantly updated in September 2012. DS 412 supports updated learning goals 1 and 3 in our undergraduate business program, i.e.

1(a) Students will demonstrate the discipline-based knowledge in economics, accounting, operations/statistics, finance, information systems, management, and marketing.
2(a) Students will solve business problems using appropriate quantitative and analytical techniques and technologies;
2(b) Students will demonstrate the ability to identify and analyze alternatives in a business context;
2(c) Students will demonstrate the ability to interpret and articulate a solution.

V. EFFECTIVE DATE: Fall 2016

VI. COURSE OBJECTIVES: The purpose of this course is to introduce the student to the typical problems and topics associated with the management of manufacturing and service operations; the proper analysis of those problems; and their practical implications. The student should be able to:

A. Understand and apply the basic concepts of operations management to practical situations.
B. Use relevant quantitative techniques to analyze and solve operations management problems.
C. Employ appropriate computer software to obtain solutions to operations management problems.
V. COURSE CONTENT: (12 weeks)

A. (1 week) A discussion of the operations management function in manufacturing and service organizations. Relationships with other business functions.


C. (1 week) Capacity Planning: Break Even Analysis. Evaluation of tradeoffs between fixed and variable costs, including in-house verses outsourced production.


E. (2 weeks) Inventory control. Types of inventory systems. The classical economic order quantity (EOQ) model, and extensions. Reorder points and lead times. Service levels and safety stock.


H. (1 week) Optional topic(s) as selected from the following suggested list: Decision Theory, Supply Chain Management, Simulation, Facility Selection, Queuing and Service models.

VI. PREREQUISITE KNOWLEDGE: Students should have an understanding of: Spreadsheet usage and Elementary mathematics (including elementary differential calculus), probability theory, inferential statistics

VIII. TEACHING METHODS AND MATERIALS:

METHODS: Class lecture/discussion, problem solving, computer applications and simulation games, case analysis, and homework.


Reid and Sanders, Operations Management, Wiley, 2010


MATERIALS: Computers and software.

IX. GRADING: Exams and quizzes, homework, computer assignments and simulation games.