

## **I. General Information**

- ♦ Course number: SCM 611
- ♦ Title: Operations Planning and Analysis
- ♦ Units: 3
- ♦ Prerequisites: Graduate standing
- ♦ Course Coordinator / SCO Prepared by Dr. Xuemei Su
- ♦ Date prepared / revised: Jan. 11, 2013

## **II. Catalog Description**

Advanced topics on work system design, business process reengineering, and using analytics to make operational decisions such as inventory control, capacity management and scheduling. Emerging operations practices in various industries and hands-on software experiences are included. Letter grade only (A-F).

## **III. Curriculum Justifications**

Operations planning and control is essential to all types of organizations. This course aims to teach students operations planning and control theory and techniques used in the production and delivery services, and exemplify state-of-art operations practices in world-class organizations. At graduate level, students need to evaluate and manage an organization's operations processes in a complex global supply chain setting, and make decisions that support its global operations strategy and competitive business strategy. As such, students need to overcome functional silos and focus on the business processes that link various functions and create customer value. They need to use critical thinking to decide on the right and balanced operational evaluation and measurement system. Quantitative analysis is the backbone of a sound operations decision and various statistical, optimization tools, and mathematical models will be covered in the course. Embedded in the specific subject matter of the course is an appreciation of the following CBA graduate learning goals:

- Critical Thinking (General)
- Ethics (General)
- Business Functions (Management-specific)
- **Quantitative & Technical Skills (Management-specific)**

#### IV. Course Objective(s)

**(Management Specific) Business functions:** *Students will demonstrate understanding of all business functions, practices and related theories and be able to integrate this functional knowledge in order to address business problems.*

Students will be able to:

- Demonstrate understanding of the interfaces of operations with other functions such as marketing, finance, accounting, and customer service etc.
- Critically appraise the impact of operations decisions on the overall business performance.
- Show understanding of the key management issues related to the successful coordination of global supply chains.

Suggested methods of assessment: objective test questions, essay test questions, case analysis, supply chain simulation game.

**(Management-specific) Quantitative & Technical Skills:** Students will possess quantitative and technological skills enabling them to analyze, interpret, and communicate business data effectively and to improve business performance.

- Critically appraise and apply appropriate methods and techniques to tackle specific operations problems.
- Demonstrate proficiency in using readily available software such as Excel spreadsheet and Solver to solve problems.
- Be able to use a full-fledged ERP software to retrieve data, exercise management control and analyze operations performance.

Suggested methods of assessment: problem solving and case analysis

**Critical thinking:** *Students will demonstrate conceptual learning, critical thinking, and problem-solving skills.*

- Demonstrate critical thinking by integrating planning and control tactics across business functions within a company and across businesses within a supply chain.
- Demonstrate critical understanding of unique planning and control practice in a particular organizations and evaluate its soundness.
- Make logical and defensible recommendations that are consistent with scenario setting, and effectively communicate these recommendations both orally (e.g., presentations, class discussion) and in writing.

Suggested methods of assessment: essay test questions, research paper, case analysis and presentation, and supply chain simulation game.

**Ethics:** *Students will be able to demonstrate awareness and knowledge of social responsibility, ethical leadership, and citizenship issues in the local, regional and world communities.*

- Demonstrate understanding of the management of ethical and social responsibility in a supply chain.

Suggested methods of assessment: objective test questions, essay test questions, research paper, case analysis and presentation.

## V. Outline of Subject Matter

<b>Topics to be covered:</b>
Operations management overview
Process analysis: Process flow diagram, process chart and service blueprinting
Process analysis: Process capacity and bottleneck analysis
Process analysis: Resource utilization & labor costs estimation
Line balancing
Setup time and batching
Inventory fundamentals: counting system, classification, cycle counting and inventory deployment
Inventory management: Economic order quantity and production order quantity
Inventory management: Reorder point, single-period model, quick response
Long-term, intermediate-term and short term operations planning
Work scheduling
JIT and lean systems
Managing queuing systems
Quality Management
Forecasting

## VI. Methods of Instruction

- a) Instructors should use appropriate instruction methods that are consistent with the graduate level of instruction and the course description stated in Section II, and serve the course objectives listed in Section IV of this SCO. Examples of instruction methods for the course include:
  - Class lecture/examples/discussion
  - Individual and team case analysis
  - Written assignments including research papers
  - Individual and team projects
  - Debates
  - Simulations
- b) The textbooks for this course should be chosen in accordance with the University Policy on textbooks. Instructors should use appropriate readings, cases and/or text books that are consistent with the graduate level of instruction and the course description stated in Section II, and serve the course objectives listed in Section IV of this SCO. Given the diverse nature of the material covered, a custom course pack may be appropriate. The following is illustrative:
  - Textbook: "Matching Supply with Demand: An Introduction to Operations

- Management”, by Cachon and Terwiesch, McGraw-Hill / Irwin.
  - Book: “The Goal” by Goldratt and Cox, Great Barrington, MA:
  - Appropriate graduate level cases from Harvard or Ivey
  - Supply Chain Simulation Game, SAP University Alliance.
- c) Instructors in planning the exams, and other grading procedures, should adhere to the relevant University Policy on “Grades, Grading Procedures, and Final Assessments, Final Course.” Examinations must be essay-type and/or problem solving questions and avoid the predominant use of multiple-choice questions.

## VII. Instructional Policies Requirements

Instructional policies should be consistent with the course description stated in Section II, and should serve the course objectives listed in section IV of this SCO.

Instructors may specify their own policies with regard to plagiarism, withdrawal, absences, etc., as long as these policies are consistent with the University policies published in the CSULB Catalog. It is expected that every course will follow University policies on Final Course Grades, Grading Procedures, and Final Assessments (PS 05-07), Attendance (PS 01-01), Course Syllabi (PS 11-07), Final Course Grades, Grading Procedures, and Final Assessments (PS 05-07), and Withdrawals (PS 02-02 rev). If some or all sections of the course are to be taught, in part or entirely, by distance learning in the future, the course must follow the provisions of PS 03-11, Academic Technology and the Mode of Instruction.

All sections of the course will have a syllabus that includes the information required by the syllabus policy adopted by the Academic Senate. Instructors will include information on how students may make up work for excused absences. When class participation is a required part of the course, syllabi will include information on how participation is assessed.

**Students with Disabilities.** Students with disabilities are responsible for notifying their instructor as early as possible of their needs for an accommodation of a verified disability. A student with a disability is urged to consult with Disabled Student Services as soon as possible in order to identify possible accommodations to enhance academic success.