



## MGT 025: Operations Management

Term: 2020 Winter Session

Instructor: Staff

Language of Instruction: English

Classroom: TBA

Office Hours: TBA

Class Sessions Per Week: 6

Total Weeks: 4

Total Class Sessions: 25

Class Session Length (minutes): 145

Credit Hours: 4

### Course Description:

This course introduces the theoretical framework for managing operations. We will study a variety of issues including quantitative methods, quality management, product and service design, process selection and capacity planning, design of work systems, inventory management, aggregate planning, material requirements planning, scheduling, waiting line model, just-in-time systems, and supply chain management. Student who successfully complete this course should be able to apply fundamental theories and analytical techniques to management issues of the real world.

### Course Materials:

#### 1. **In-class Handouts**

Contents of handouts will be mainly selected from the optional textbook below. Students are not required to buy textbooks. The in-class handouts are the only mandatory course materials.

#### 2. **Optional Texts:**

*Operations Management*, Jay Heizer and Barry Render, 12th edition.

### Course Format and Requirements:



Classes will start and end on time. Regular attendance is expected. Late entry or reentry to a class session is allowed only under exceptional circumstances. All phones, laptops and other electronic devices should be turned off.

Regular class presence is required. Attentive participation and informed discussions are critical to the learning process; they make classes more interesting and enjoyable for all the students. Students are encouraged to volunteer substantive comments and questions freely.

### **Attendance:**

Attendance is important, mandatory, and critical to the success of the class. It's understandable that sometimes personal issues come up and making class is sometimes difficult. Attendance will be taken every class. A student can miss up to 4 (FOUR) classes without any penalty for attendance points. The fifth absence will result in a loss of all attendance score (10% of the final score). University excused absences will be considered up until 24 hours after the class period has ended. Leaving the lecture early without permission is automatically an unexcused absence. Two late arrivals constitute an un-excused absence.

### **Grading Scale:**

**A+: 98%-100%**

**A: 93%-97%**

**A-: 90%-92%**

**B+: 88%-89%**

**B: 83%-87%**

**B-: 80%-82%**

**C+: 78%-79%**

**C: 73%-77%**

**C-: 70%-72%**

**D+: 68%-69%**

**D: 63%-67%**

**D-: 60%-62%**

**F: Below 60%**

### **Course Assignments:**



**\*NOTICE: No make-up exams are offered** unless you have a written excuse from your doctor or the University.

### Quizzes

Throughout the semester, students will have seven in-class quizzes. The formats include group work, mini-papers, multiple choices and True/False. Two lowest in-class writing grades of the semester will be dropped. In-class writing assignments cannot be made up.

### Midterm Exams

These exams will be based on concepts covered in class and problems in the homework assignments. The 3 midterm exams will be in-class, close-book and non-cumulative.

### Final Exam

The final will be cumulative to allow you to demonstrate the breadth of knowledge you've acquired throughout the semester. The final exam will be close-book. The final exam is worth 35% of the total final score. Note that the final will not be taken during the normal class times. Exact time and location for final will be announced in the last week of sessions.

### Course Assessment:

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|----------------|-------------|
| Attendance     | 10%         |
| Top 5 Quizzes  | 15%         |
| Midterm Exam 1 | 20%         |
| Midterm Exam 2 | 20%         |
| Final Exam     | 35%         |
| <b>Total</b>   | <b>100%</b> |

### Course Schedule:

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| Week 1- Class 1  | Week 1- Class 2   |
| The role operations have in services and goods;<br>Variables associated to productivity and how it | Key operations management decisions;<br>critiquing key success factors and core |



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| is measured;<br>Strategic options for a competitive advantage through operations<br>Overview of Accounting and Financial Statements  | competencies enabled through the execution of operations management decisions<br>accounting cycle; investing and financing transactions                             |
| Week 1- Class 3  | Week 1- Class 4   |
| <b><u>Quiz 1</u></b><br>Supply chain strategies<br>Use factor rating to evaluate key decisions<br>Enterprise applications of operations management decisions and strategies  | Plan, schedule, and control projects across operations<br>Apply Program Evaluation and Review Technique (PERT)<br>Develop a Gantt chart schedule                    |
| Week 1- Class 5  | Week 1- Class 6   |
| slack time and project crashing needs for a project<br>evaluate trade-offs, risks, and estimates to time and cost project objectives<br>probability and confidence levels for project completion   | <b><u>Quiz 2</u></b><br>Importance of Forecasting<br>Types, Steps, and Approaches used across Supply Chains<br>Design and Process Strategies,<br>Product Life Cycle |
| Week 2- Class 7  | Week 2- Class 8   |
| Analyze how products and services are designed to create value for the customer by integrating diverse expectations, technology, and sustainability needs<br>Corporate social responsibility and sustainability practices<br>Probability distributions and attributes versus variables<br>Statistical quality control and customer service | <b><u>Midterm 1</u></b>   |



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| levels  |   |
| Week 2- Class 9   | Week 2- Class 10  |
| Cost of quality, quality certifications, continuous improvement, benchmarking, Taguchi loss function, service warranty/guarantee and recovery, and other quality management strategies.<br><br>Use quality tools to analyze variation and quality issues for prioritization and improvement needs | Process capability and control chart limits for statistical process control<br><br>Build spreadsheet models to analyze quality D processes using flowcharts, process maps, value stream maps, process charts, and service blueprinting<br><br>Process capacity, utilization, efficiency, and bottlenecks to improve product, service, and process decisions |
| Week 2- Class 11  | Week 2- Class 12  |
| <b><u>Quiz 3</u></b><br><br>Importance and factors that affect location decisions<br><br>Methods used to evaluate location alternatives and strategies<br><br>Layout types, services capes, software modeling and cellular design   | Work load balancing, and efficient flow strategies<br><br>Labor planning, scheduling, policies, job design, ergonomics, methods analysis, visual workplace, labor standards, and other human resource strategies  |
| Week 3- Class 13  | Week 3- Class 14  |
| <b><u>Quiz 4</u></b><br><br>Risks, ethics, vendor selection, logistics, performance measurement, economics, and other supply chain strategies.<br><br>Integrate Supply Chains Across Complex Systems;   | Develop Transportation Models to Minimize Shipping Cost.<br><br>Types, functions, importance, and models used to manage inventory   |
| Week 3- Class 15  | Week 3- Class 16  |



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| Apply queuing theory to understand waiting<br>Sales & operations planning (S&OP), chase<br>versus level strategies, and yield management<br>strategies; Information technology through<br>various operating decisionsline systems and<br>performance | <b><u>Quiz 5</u></b><br><br>Dependent versus independent demand<br><br>Master production schedule (MPS), bill of<br>material (BOM)  |
| Week 3- Class 17   | Week 3- Class 18  |
| Inventory management, purchase/work orders,<br>lead-time, lot-sizing<br><br>Other operating system requirements<br><br>Material Requirements Planning (MRP)<br><br>Capacity Planning,  | Distribution Requirement Planning (DRP)<br><br>Warehouse Management Systems (WMS)<br><br>Resource Planning (ERP) Systems  |
| Week 4- Class 19   | Week 4- Class 20  |
| <b><u>Midterm 2</u></b>  | Analyze Short-term Scheduling importance,<br>issues, assignment, sequencing, input-output<br>control, and capacity decisions<br><br>Emerging technology, modeling, and<br>simulation systems used to enable operation<br>decisions and enhance value chain<br>performance |
| Week 4- Class 21   | Week 4- Class 22  |
| Advantages and disadvantages of modeling<br>with simulation<br><br>Just-in-time and lean operations  | <b><u>Quiz 6</u></b><br><br>Layout, human resource, supplier partnerships,<br>Performance metrics, inventory and setup<br>reduction, Pull/Kanban systems, standard work<br><br>Other strategies for continuous improvement  |
| Week 4- Class 23   | Week 4- Class 24  |



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| Importance of Maintenance and Reliability<br><br>Techniques used to Enhance Reliability | <b><u>Quiz 7</u></b><br><br>Formulating linear program problems with solution methods and sensitivity analysis<br><br>Defining and computing learning curves to understand the strategic implications on operation decisions. |
| Week 4- Class 25  | <b><u>Final Exam (Cumulative): TBA</u></b>  |
| Summary of the semester;<br><br>Review for FINAL  |   |

### Academic Integrity:

Students are encouraged to study together, and to discuss lecture topics with one another, but all other work should be completed independently.

Students are expected to adhere to the standards of academic honesty and integrity that are described in the Shanghai Normal University's *Academic Conduct Code*. Any work suspected of violating the standards of the *Academic Conduct Code* will be reported to the Dean's Office.

Penalties for violating the *Academic Conduct Code* may include dismissal from the program. All students have an individual responsibility to know and understand the provisions of the *Academic Conduct Code*.

### Special Needs or Assistance:

Please contact the Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material. Our goal is to help you learn, not to penalize you for issues which mask your learning.