

STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

COURSE OUTLINE

SOET 374 – Industrial Management

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SCHOOL OF ENGINEERING TECHNOLOGY
ELECTRICAL ENGINEERING & ENGINEERING SCIENCE
DEPARTMENT
SPRING 2017

SOET 374– Industrial Management

- A. TITLE: Industrial Management
- B. COURSE NUMBER: SOET 374
- C. CREDIT HOURS: 3
- D. WRITING INTENSIVE COURSE: No
- E. COURSE LENGTH: 15 Weeks
- F. SEMESTER(S) OFFERED: Fall/Spring (Online)
- G. HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY: 15 hours per week suggested
- H. CATALOG DESCRIPTION: Industrial management is a multi-disciplinary field that focuses on managing all aspects of an organization's operations. Topics covered include operations and productivity, operations strategy in a global environment, project management, forecasting, design of goods and services, sustainability in the supply chain, managing quality, statistical process control, process strategy, capacity and constraint management, location strategies, and layout strategies.
- I. PRE-REQUISITES: Math 121 College Algebra or Math 123 Pre-Calculus, and Math 141 Statistics, or permission of instructor.
- J. ABET-Student Outcomes / Institutional Learning Outcomes

Course Objective	ABET – Student Outcomes	ISLO
1 Perform life cycle ownership and crossover analysis	(b) An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies	Critical Thinking
2. Perform operations management Analysis		Critical Thinking
3. Perform statistical process control analysis		Critical Thinking

4. Perform break-even analysis	(f) An ability to identify, analyze, and solve broadly-defined engineering technology problems	Professional Competency
5. Analyze case studies		
6. Analyze operations, productivity and strategy in a global environment	(j) A knowledge of the impact of engineering technology solutions in a societal and global context; and	

K. TEXTS:

Jay Heizer, Barry Render, and Chuck Munson,
Operations Management
 12th Edition, Pearson education, Inc., Upper Saddle River, New Jersey 07458,
 2017

L. EQUIPMENT: None

M. GRADING METHOD: A, B, C, D, F

N. MEASUREMENT CRITERIA/METHODS: Weekly Tests, Case Studies and Final Examination

O. DETAILED TOPICAL OUTLINE:

I. OPERATIONS AND PRODUCTIVITY/STRATEGY IN A GLOBAL ENVIRONMENT

- What is operations management
- Organizing to produce goods and services
- The supply chain
- Why study operational management
- What operations managers do
- The heritage of operations management
- Operations for goods and services
- The productivity challenge
- Current challengers in operations management
- Ethics social responsibility, and sustainability

- Global view of operations and supply chains
- Developing missions and strategies
- Achieving competitive advantage through operations
- Issues in operations strategy
- Strategic planning, core competencies, and outsourcing
- Global operations strategy options
- Case studies

II. PROJECT MANAGEMENT/FORECASTING

- The importance of project management
- Project planning
- Project scheduling
- Project controlling
- Project Management Techniques
- Determining the project schedule
- Variability in activity times
- Cost-time trade-offs and project crashing
- A critique of PERT and CPM
- What is forecasting
- The strategic importance of forecasting
- Seven steps in the forecasting system
- Forecasting approaches
- Time-Series forecasting
- Associative forecasting methods
- Monitoring and controlling forecasts
- Forecasting in the service sector
- Case studies

III. DESIGN OF GOODS AND SERVICES/MANAGING QUALITY

- Corporate social responsibility
- Sustainability
- Design and production for sustainability
- Regulations and industry standards
- Statistical process control (SPC)
- Process capability
- Acceptance sampling
- Case studies

IV. PROCESS STRATEGY/LOCATION STRATEGIES

- Capacity
- Bottleneck analysis and the theory of constraints
- Break-Even analysis
- Reducing risk with incremental changes
- Applying expected monetary value

- Applying investment analysis to strategy driven investments
- The strategic importance of location
- Factors that affect location decisions
- Methods of evaluating location alternatives
- Service location strategy
- Geographic information systems
- Case studies

V. LAYOUT STRATEGIES

- The strategic importance of layout decisions
- Types of layout
- Office layout
- Retail layout
- Warehouse and storage layouts
- Fixed-position layout
- Process-oriented layout
- Work cells
- Repetitive and product-oriented layout
- Case studies