Mercer University Stetson School of Business and Economics
Spring Semester, 2010, Session II
Masters of Business Administration

BAA 611.A23:Operations Management Science

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Mission Statement: The Stetson School of Business and Economics (SSBE) promotes the advancement and integration of quality business education and practice. In support of Mercer University's mission, the school provides undergraduate and graduate programs that are designed to enable, enhance, and expand professional careers, civic responsibility and lifelong learning.

COURSE DESCRIPTION:
This course focuses on the strategic and tactical issues in managing the creation and distribution of goods and services. Concepts and techniques for process and project management are covered. A broad base of topics related to operations management and management science are emphasized.

CLASS OBJECTIVES:
Students completing this course should be able to: Identify specific operational strategies for performance and improvement of business strategies. Describe and understand the principles and practice of Total Quality Management and prevalent quality management techniques. Describe and understand the principles and practices of alternative approaches to supply chain management. Apply project management principles. Apply management science techniques as appropriate.

PREREQUISITES: None

TEXTBOOK AND OTHER MATERIALS:

OPERATIONS MANAGEMENT (Flexible Edition)
Heizer, Jay and Render, Barry
Pearson Prentice-Hall
Ninth Edition [ISBN: 13: 978-0-13-607277-5]
2008
OPERATIONS MANAGEMENT – Student Lecture Guide
Heizer, Jay and Render, Barry
Pearson Prentice-Hall
Ninth Edition [ISBN: 13: 978-0-13-602569-6]
2008

Class Assignments and Evaluation

Grades will be based on a mid term and a final exam.

GRADING STRUCTURE:

A	90 – 100
B+	87 – 89
B	80 – 86
C+	77 – 79
C	70 – 76
D	60 – 69
F	≤ 59

EVALUATION CRITERIA:

	I	II
Mid term	65%	35%
Final	35%	65%

System one will be used if your grade on the mid term is higher than your grade on the final. System two will be used if your grade on the final is higher than your grade on the mid term.

INSTRUCTIONAL DESIGN:

Classes will begin with the instructor working a representative sample of the homework problems as selected by the students, followed by a lecture on a new topic including sample problems and discussion about this topic. Students will be given the opportunity to work homework and homework type problems during class as well as participate in classroom discussions of the topics being studied. Homework problems are divided into required and optional categories. Homework will not be collected, but **every student is required to have read the assigned material and to work all of the required homework problems prior to attending each class.** The optional problems are included for the student who would like some additional practice to become familiar with the topics discussed in class. Every student is required to bring a calculator to every class. It is in the student's best interest to attend every class, however this is not always possible. If you find it necessary to miss a class it is your responsibility to learn the material that was covered during your absence. A maximum of one absence is permissible.

PROTOCOL FOR THE USE OF CELL PHONES AND PAGERS AND SIDE CONVERSTAIONS

Out of courtesy for all those participating in the learning experience, **all** cell phones and pagers must be turned off before entering any classroom, lab **or formal academic or performance event.** Also**, please refrain from having private conversations** when either your professor or your classmates are interacting in class and refrain from leaving class during the lecture unless it is an emergency.

HONOR CODE:

Mercer University Atlanta expects each and every student to maintain the highest principles of academic honesty and integrity. Violations of academic honesty represent a breach of the University’s expectations and will be regarded as a serious matter. Violations include, but are not limited to, plagiarism, cheating, lying, and stealing.

DISABILITY AND SUPPORT SERVICES

Students with a documented disability should inform the instructor at the close of the first class meeting. The instructor will refer you to Richard Stilley, Assistant Dean for Student Life (tel: 678-547-6823; Sheffield 212), for consultation regarding evaluation, documentation of your disability, and recommendations for accommodation, if needed. More information can be found at www.mercer.edu/stu_suport/swd.htm

INCLEMENT WEATHER: If severe weather occurs, classes will be canceled in accordance with the Associate Provost's decision of Mercer Atlanta. Call the Mercer weather line for information about class cancellations – (678) 547-6111 (Atlanta) or listen to WSB 750 AM.

CLASS SCHEDULE: (page numbers in parentheses are for the hardback version)

1. Nar. 17 Chapter 1: Operations and Productivity. pp. 1-23 (1-26).
Chapter 2: Operations Strategy in a Global Environment. pp. 25-50 (27-54).
Chapter 3: Project Management. pp. 51-78 (55-82); 83-87 (87-102).

2. Mar. 24 Chapter 5: Design of Goods and Services. pp: 133-164 (155-190).
Chapter 4: Forecasting. pp. 91-106 (103-118); 109-111 (121-123);116-131 (128-153).
Problems Due: 1.1,1.2,1.10
Optional: 1.5,1.6,1.7
Problems Due: 3.4,3.6,3.7a,3.7b,3.7c,3.14,3.18
Optional: 3.3,3.10,3.11,3.12,3.17,3.24

3. Mar. 31 Chapter 6: Managing Quality. pp. 165-188 (191-219).
Chapter 12: Inventory Management. pp.401-416 (481-496); 420-436 (500-523).
Problems Due: 5.12,5.16
Optional: 5.11,5.13
Problems Due: 4.2,4.5,4.8a,4.8b,4.8c,4.8d,4.13,4.25 (calculate correlation and standard error of the estimate for 25);4.33a,4.33b
Optional: 4.3,4.15,4.32 (Calculate correlation and standard error of the estimate for 32).

4. Apr. 7 Chapter 11: Supply Chain Management. pp. 357-383 (431-461).
Chapter 12: Inventory Management. pp. 417-419 (497-499).
Chapter 16: Just-in-Time and lean Production Systems. pp. 533-555 (639-665).
Problems Due: 12.2,12.8,12.13,12.15,12.21,12.23,12.28
Optional: 12.7,12.9,12.12,12.20b,12.22,12.26,12.27

5. Apr. 14 Mid Term (Will cover chapters 1,2,3,5,4,6,and 12.)

6. Apr. 21 Chapter 14: Material Requirements Planning (MRP) and ERP.

pp. 465-497 (559-597).
Quantitative Module B: Linear Programming. pp. 589-610 (705-732).
Problems Due: 11.2
Optional: 11.3
Problems Due: 12.17,12.18a,12.18c,12.18d
Problems Due: 16.1,16.3
Optional: 16.2,16.4

7. Apr. 28 Quantitative Module A: Decision-Making Tools. pp. 573-587 (685-704).
Quantitative Module C: Transportation Models. pp. 611-626 (733-752).
Problems Due: 14.3,14.4,14.5
Optional: 14.2
Problems Due: B.1,B.5,B.7,B.19,B22
Optional: B.2,B.9,B.12
Problems to be worked in class: A.2,A.3,A.7,A.8;A.14,A.16 C.1a,C.2

8. May 5 COMPREHENSIVE FINAL EXAM

SUPPLEMENTARY ANSWERS TO HOMEWORK PROBLEMS

Chap. 1	1.1	a.) 3.0; b.) 3.125; c.) 4.166%.
	1.5	a.) 20; b.) 26.6; c.) 33%
	1.6	Labor: 3.3333; 3.6364; 0.0303; 9.09%; Resin: 20.00; 20.22; 2.22; 11.11%; Capital: 10.00; 0.0909; -.0909; -9.09%; Energy: 0.3333; 0.3509; 0.0175; 5.26%
	1.7	0.206186; 0.22179; 7.5388%.
	1.10	Labor: 4.2857; 4.6135; 7.6932%; Capital: 0.10; 0.0833; -16.67%; Energy: 0.50; 0,5454; 9.09%.
Chap. 3	3.3	A-C-F-H: 21 days.
	3.7	A-C-D-F-G: 28.7 hours.
	3.11	B-E-G: 21 weeks.
	3.17	a.) 12; b.) 1.7778; c.) A-C-F-H-J-K; d.) 40.1667 weeks; e.) 10.02778; f.) 0.09342.
	3.18	1.) C 1 day; 2.) A-E 1 day each; 3.) D-E 1 day each; 4.) D-E 1 day each; $1,000.00.
	3.27	a.) 0.97725; b.) 0.34458; c.) 46.4.
	4.37	a.) a =1; b = 1; b.) r = 0.8452; c.) SEE = 1.1547.
Chap. 5	5.11	a.) $145,000 (best); b.) $151,000; c.) $154,000.
	5.13	EV(elegant) = $3,500; EV(deluxe) = $4,000.
Chap. 4	4.3	Forecast = 9.18207.
	4.5	a.) 3,750; b.) 100; c.) Forecast = 3.740; MAD = 140; d.) 3,662.5.
	4.13	a.) 56.26304; 57,75746; b.) 49; 52.6666; 55.3333; c.) 45.8; 49.0; 52.2; 55.4; 58.6; 61.8; d.) Trend.
	4.15	555; 67.
	4.25	y-hat = 5 + 20X; 105; r = 0.9759; SEE = 7.0711.
	4.32	r = 0.99087; SEE = 7.7459.
	4.33	a.) y-hat = 126 + 18X; 126; b.) 32.
Chap. 12	12.7	$30.00.

	12.9	a.) 300; b.) 3,750.00; c.) 3,750.00; d.) 400.
	12.13	a.) 250; b.) 125; $187.50; c.) 10; $187.50; d.) $375.00; e.) 25; f.) 20.
	12.15	a.) 100; b.) 2.5; c.) 50; d.) $45.00.
	12.17	a.) 4,472.1359; b.) $134.16; c.) $134.16; d.) $12,268.33.
	12.21	562,366.43; 543,516.67.
	12.23	402,601.21; 362,400.00; 342,500.00.
	12.27	a.) 8.96 (9); b.) 68.96 (69).
Chap. 11	11.3	Donna: 8.8; Kay: 10.0.
Chap. 16	16.1	5
	16.3	ELS = 60; 4.8 or 5.
Module B	B.1	X1 = 1 1/3; Y = 3 1/3; Z = 25 1/3.
	B.5	X1 = 143/37; X2 = 165/37; Z = 5952/37.
	B.7	X1 = 40; X2 = 60; Z = 1,900.
	B.9	X1 = 20; X2 = 10; Z =640.
	B.19	X1 = 12; X2 = 6; Z = 162.
	B.22	X1 = 14; X2 = 33; Z = 221.
Module A	A.3	12,200 (best); 10,400; 7,500.
	A.5	28,000; 320,000 (best).
	A.7	a.) 22,000; 26,000; 29,200 (best); b.) 34,000; c.) 4,800.
	A.12	300.00; 340.50; 352.40 (best); 317.00.
	A.17	76 (best); 64.
	A.21	b.) 520 (best); 475.
Module C:	C.1	NWC = $3,120
	C.2	NWC = $226