SBNM 5411 Fall Quad 2012-13

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COURSE DESCRIPTION: Operations Analysis I covers the design, operation, and improvement of the production systems that create the firm's primary products or services. Operations analysis decisions at the strategic level impact the company's long range effectiveness in terms of how it can address its customers' needs. The course analyzes the competitive strategy under which the system operates, examines product design and process choices, and considers the design of the various parts of the production system. It includes applications of quantitative decision models to achieve high-volume production using minimal inventories of parts that arrive at the work station just in time, to seek aggressively to eliminate causes of production defects, and to measure manufacturing performance in terms of cost, quality, speed of delivery, and flexibility. Examples are drawn from processing systems in both product and service organizations. Operations analysis deals with technological issues as well as human and ethical factors. Prerequisite: MNGT 5300 Statistical Methods.

PURPOSE: This course is part of the Masters required core of courses. Operations analysis deals with the management of the direct resources required to produce the goods and services provided by an organization. These resources include people, plants, parts, processes, and planning and control systems. Processes include the equipment and the steps by which production is accomplished. Planning and control systems are the procedures and information used by management to operate the system. The course is managerially oriented. This is a graduate level course and is targeted at students in the Masters program.

COURSE OBJECTIVES:

a. To study operations systems, how they work, and how they are managed effectively.
b. To develop an appreciation for the interaction of the operations activity with other management systems within the organization.
c. To understand the traditional decision responsibilities of operations management, including process, capacity, inventory, work force, and quality.
d. To appreciate that quality is ultimately defined by the customer.
e. To apply specific forecasting models in connection with the problems to which they are applicable. These models include moving average, exponential smoothing, and classical decomposition.
f. To evaluate and select a combination of strategies involving production, inventory, and quality control systems.
g. To weigh the trade-offs and planning issues that set the course for quality, cost, dependability, flexibility, and service.
h. To integrate ethical considerations into topics such as worker motivation and job enrichment.

COURSE REQUIREMENTS:

Regular attendance at class meetings and group meetings

Participation in classroom discussions

Satisfactory completion of all assignments and examinations

OPERATIONAL EXCELLENCE:

In this course, students are required to select the appropriate formula, substitute correctly into the equation, and accurately perform the necessary arithmetic operations to solve the equation. This course strives to ensure the highest quality in the execution of all computational procedures. We are guided by W. Edwards Deming's teachings: Adopt the approach of **defect prevention** rather than defect detection throughout. Defect prevention is achieved by students repeating the problem computations to assure accurate calculation. To promote precision, do not round the calculated amounts during intermediate computations. Carry all digits in the calculator to decrease the likelihood of error. By carrying all digits in the calculator memory (without intermediate rounding), students are able to repeat their calculations and compare the result of the second computation with the result of the original computation. Thus, when a computational error is identified by the student, the student is able to correct the error (i.e. defect prevention) on the examination paper or homework assignment prior to submitting the work for evaluation by the professor. When the professor detects a defect in the work of a student (i.e. error) in the formula, in the substitution, or in the computation, the professor will not award credit for the problem.

ASSIGNMENTS:

Students are responsible for textbook reading assignments.

EXAMINATIONS:

Exams are problem oriented. Quantitative questions dominate the exams. Some definitions, derivations, and short proofs are required. All exams are cumulative. Exams are based upon class lectures and discussions, as well as the material in the text. Problem computations should be repeated to assure accurate calculation. Do not round calculation results during intermediate stages because the final answer may be adversely affected. Examinations are open book.

HOMEWORK:

Students should solve each homework problem assignment before class so they can enter into class discussion and volunteer problem solution for the class. Use of a computer spreadsheet for forecasting problem solution will be required. Students will be required to turn in spreadsheet assignments.

Required Texts: "Quantitative Decision Analysis" by Render ,Stair and Hanna 10th ed.

Prentice Hall ISBN 0-13-603625-2

Course Outline:

Week 1	Chapter	Homework Problems
Introduction to the field	1	In class
Forecasting	10	
Modeling	11	
Week 2		
Statistics	13	Pizza Example
Statistics	15	
Week 3		
Simple Regression	15	Gass Problem
Week 4		
Multiple Regression	15	Heating
Week 5		
Midterm Examination	15	
Week 6		
Decision Analysis	12	Potato-Tomato
Week 7		
Queuing	14	
Week 8		
Final Exam		

ACADEMIC HONESTY

In keeping with our Christian heritage and commitment, North Park University (NPU) and the SBNM are committed to the highest possible ethical and moral standards. Just as we will constantly strive to live up to these high standards, we expect our students to do the same. To that end, cheating of any sort will not be tolerated. Students who are discovered cheating are subject to discipline up to and including failure of a course and expulsion.

Our definition of cheating includes but is not limited to:

- Plagiarism – the use of another's work as one's own without giving credit to the individual. This includes using materials from the Internet.
- Copying another's answers on an examination.
- Deliberately allowing another to copy one's answers or work.
- Signing an attendance roster for another who is not present.

In the special instance of group work, the instructor will make clear his/her expectations with respect to individual vs. collaborative work. A violation of these expectations may be considered cheating as well. For further information on this subject you may refer to the Academic Dishonesty section of the University's Catalog (available at www.northpark.edu). In conclusion, it is North Park's mission to prepare you for a life of significance and service. Honesty and ethical behavior are the foundation upon which such lives are built. We therefore expect the highest standards of each student in this regard.

ATTENDANCE POLICY

The graduate courses in the SBNM are all 7 weeks in length. Missing one class session is allowed without penalty as long as all readings and assignments are made up by the student within a reasonable time period (the following week). Failing to log into an online course site for an entire week is allowed, but a penalty may be applied at the instructor's discretion. Missing a second class session is allowed only in unusual circumstances by prior arrangement with the instructor. Since this represents almost 30% of the engagement time for the course, the student runs the risk of receiving a lower overall grade for the class. Faculty are encouraged to drop the course grade by a full letter grade in this situation. A student who misses three classes (or the equivalent two weeks for an online class) will automatically fail the course, unless the student drops the course before the seventh week of class. Students who drop a course will be held responsible for tuition, based upon the current North Park University refund policy outlined in the University Catalog.

DISABILITIES

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the SBNM program office (773-244-6270). Please do so as soon as possible to better ensure that such accommodations are implemented in a timely manner. For further information please review the following website: http://www.northpark.edu/ada.

USE OF *APA PUBLICATION MANUAL*

The School of Business and Nonprofit Management (SBNM) has adopted the *Publication Manual of the American Psychological Association* (APA) as the standard and required format for all written assignments in SBNM courses.

Our goal in adopting the *APA Manual* is to enhance student learning by:

1) Improving student's writing skills.

2) Standardizing the required format of all written assignments in all SBNM courses.

3) Emphasizing the importance of paper mechanics, grammatical constructs, and the necessity of proper citations.

4) Holding students accountable for high quality written work.

If you are unfamiliar with the requirements of the *APA Publication Manual*, we recommend that you purchase the reference manual and/or that you consult one or more of the suggested resources as listed on the Student Resources section of the SBNM website. *It is your responsibility to learn and ensure that all written work is formatted according to the standards of the APA Manual.*

GRADING AND EVALUATION: The numerical course grade is determined by computing the weighted mean of two exams and class participation:

Midterm examination 35%
Final examination 35%
Spreadsheet assignments 30%

- All class activity and examinations will be open book.

The student's final grade in the course is determined by the level of the weighted mean after rounding.

Weighted Mean	Final Grade
90-100	A
80-89	B
70-79	C
60-69	D
less than 60	F

A For outstanding performance in terms of the class and standards established for the course by the professor; excellent mastery and mature understanding of the subject; student is fully capable of utilizing the material and applying it to new situations.

B For commendable performance short of the superior achievement of those given the grade of "A"; good mastery of the subject; to use the material in a new situation, the student would have to do some careful review and study, but could be relied upon to perform competently.

C For wholly competent but undistinguished performance of the attainment of course standards; adequate mastery of the subject; but could not be expected to utilize the material independently in a new situation without supervision and guidance; may have some trouble with subsequent related courses

D For achievement acceptable for grade and credit without repeating the course; this "passing" performance is sufficiently below average, however, so that, if consistently or frequently found in the record of the individual student, overall major objectives and university standards are not being met; acceptable mastery for grade and credit without repeating the course; this "passing" performance is sufficiently below adequate, however, so that overall graduate objectives and college standards are not being met.

F For failure to meet even minimum standards for the course. A failure in a required course must be made up by repeating the course. Failure to master the minimum standards established by the professor for the course.