**INSTRUCTOR: Dr. Abdullah Alharbi**

**OFFICE: Business Administration 273**

**OFFICE HRS: by appointment**

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**Course Times: Wednesday 8:00 am to 11:00 am**

**TEXT BOOK:**

**Bernard W. Taylor, *Introduction to Management Science, the latest edition* Prentice Hall.**

**COURSE DESCRIPTION:**

**This course emphasizes on building students’ analytical skills for developing mathematical models for decision-making. The course provides an introduction to Management Science (Operations Research) concepts and analysis techniques for mathematical programming and decision-making. Basic computers skills of Excel and Statistics are necessary to solve the problems discussed in the lectures. The course emphasis is on problem formulation, model building, data analysis, solution techniques, and evaluation of alternative designs/processes in complex systems.**

**COURSE OBJECTIVES:**

**The purpose of this course is to provide the students with the following capabilities:**

**Objective 1: Develop analytical problem solving and decision-making thinking.**

**Objective 2: Build Management Science based models of management problems.**

**Objective 3: Apply software packages to solve management problems.**

**Objective 4: Understand the results of computer modeling.**

**Objective 5: Select the appropriate analytical technique to real world problems.**

**Objective6: Summarize and present analysis of results in a clear and acoherent manner.**

**CLASS PROCEDURE:**

**The procedures followed in this class will be similar to those followed in other Business courses. The main method of instruction is lecture with student participation. There will also be a few in-class group work which help students to discuss management problems.**

**EXAMINATIONS:**

**There will be one midterm exam which will cover about one half of the material and is scheduled to take 90 minutes. The final exam will be given at the time set by the University.**

**GROUP CASES:**

**Groups of two or three members each will be assigned to work on few small casesduring the semester. The group formation will be assigned by me.**

**ATTENDANCE:**

**Attendance is expected, and will be tracked daily. Since this class meets fewer than 15 times, missing more than 3 sessions is considered excessive and will adversely affect your final course grade. In addition, poor attendance explicitly affects your class participation score. If you miss class, I expect you to get the notes and be familiar with the material by the next class. You are responsible for all material covered in class during your absence, including new assignments.**

**HONOR CODE:**

**Plagiarism in any form is not acceptable. While discussion homework and projects with classmates is encouraged, all work submitted must be your own work. Evidence of plagiarism on an assignment or an exam will result in a failing grade for that assignment/exam and might also result in failing the course.**

**Grades:**

**Mid-Term Exams: 30% (Suggested to be on week 9, Mar 18, 2020)**

**HW and Case Analysis & Presentation: 20%**

**Participation: 10%**

**Final Exam: 40% (TBA)**

**Total: 100%**

**Course Outlines:**

**Ch1: Introduction to Management Science and Management Science Modeling.**

**Ch2: Linear Programming: Model Formulation and Graphical Solution**

**Ch3: Linear Programming: Computer Solution and Sensitivity Analysis**

**Ch4: Linear Programming- Modeling Examples**

**Ch5: Integer Programming**

**Ch6: Transportation & Assignment Problems only**

**Ch7: Network Flow Models**

**Ch8: Project Management (CPM, PERT)**

**Ch12: Decision Analysis (if time permits)**