UNIVERSITY OF TEXAS AT TYLER
COLLEGE OF BUSINESS & TECHNOLOGY
Fall 2010

COURSE NUMBER: MANA 5315 Section 040
COURSE TITLE: Quantitative Analysis
CLASS TIME: Tuesday, 6 to 8:45 pm
INSTRUCTOR: Dr. Sherry Avery
OFFICE: BUS 127
OFFICE HOURS: Tuesday 11 am – 1 pm, 5 pm– 6 pm
Tuesday and Thursday 11 am – 2 pm and by appointment.
I have an open door policy. Any time I am in the office, I am available for questions.
E-MAIL: savvy@uttyler.edu – This is the best way to reach me quickly
PHONE: Office: (903) 567-7005

KEY DATES:
August 31 – first day of class
September 8 – Census date, deadline for registrations, schedule and section changes.
October 29 – Last day to withdraw from one or more courses
December 9 – Last day of class
December 16 – Final Exam

COURSE DESCRIPTION: Topics covered will include quantitative techniques for decision making, and selected quantitative models with computer applications.
PREREQUISITES: Students should have taken a basic course in statistics. Additionally, students should have a basic understanding of simple algebra.

Students should be proficient in computer usage including accessing information via the Internet and using Microsoft Word, Excel and PowerPoint. Microsoft Excel will be used extensively in this class.

CORE VALUES OF THE COLLEGE OF BUSINESS AND TECHNOLOGY

- PROFESSIONAL PROFICIENCY
- TECHNOLOGICAL COMPETENCE
- GLOBAL AWARENESS
- SOCIAL RESPONSIBILITY
- ETHICAL COURAGE

COURSE OBJECTIVES:

I. KNOWLEDGE OBJECTIVES OF THIS COURSE INCLUDE:
   - Appreciate the wide variety of applications for management science techniques.
   - Be able to recognize when to use different techniques.
   - Understand the fundamental concepts and assumptions for each technique.
   - Gain the skills to correctly formulate models to find optimal solutions.
   - Learn to correctly interpret solutions and other information from computer outputs.

II. COMPETENCIES TO BE DEMONSTRATED IN THIS COURSE INCLUDE:

1. COMPUTER-BASED SKILLS:
   - WORK PROCESSING competencies will be demonstrated by requiring assignments to be completed with the aid of a word processor.
   - SPREADSHEET competencies will be demonstrated by requiring its use to complete homework.
   - PRESENTATION SOFTWARE competencies will not be used in this class.
   - INTERNET SEARCH SKILLS competencies will be demonstrated by requiring the ability to search for supplemental material.

2. COMMUNICATION SKILLS:
   - WRITTEN communication skills will be demonstrated through assignments.
   - ORAL communication skills will be demonstrated through class discussion.

3. INTERPERSONAL SKILLS:
   - TEAM-BASED ABILITIES – Teams will not be used in this class. However, students may work in groups for homework assignments.
   - CLASS-ROOM DISCUSSIONS – Students may also demonstrate interpersonal skills when participating in class room discussions. For example, listening carefully when other students are talking and not dominating the conversation.

4. PROBLEM SOLVING (CRITICAL THINKING)
   - CONCEPTUAL THINKING will be demonstrated in class discussions, homework, and exams.
   - GATHERING AND ANALYSING DATA will be demonstrated through the assignments and exams.
   - QUANTITATIVE/STATISTICAL SKILLS will be required to complete homework and exams.
   - CREATIVITY AND INNOVATION will be demonstrated in through assignments.
5. ETHICAL ISSUES IN DECISION MAKING AND BEHAVIORS:
Specific ethical issues will be addressed in relation to data analysis and presentation.

6. PERSONAL ACCOUNTABILITY FOR ACHIEVEMENT:
• MEETING DEADLINES: Students are expected to submit assignments by deadlines to receive credit for the assignments. Homework is due at the beginning of the class indicated. **Late submissions will not be accepted.**
• QUALITY OF WORK PERFORMED will be demonstrated by the accuracy of the assignment and following the provided guidelines of the assignment.

7. COMPETENCE IN BASIC BUSINESS PRINCIPLES:
• Competence in major field and grounding in other core areas.
• Awareness of international and domestic implications of business decisions
• Understanding and appreciation of strategic impact of business decisions.

III. OUTCOMES FOR STUDENTS TO SUCCESSFULLY COMPLETE COURSE INCLUDE:
• Examinations
• Homework
• Class Participation
• Term Project

BLACKBOARD
An on-line “class interface” for this course will be available through **blackboard**. Blackboard will allow you 24-hour access to course materials, announcements, your grades, and other information. It will facilitate easy communication with fellow students and the instructor. Please note: **this is NOT an on-line course**—you will not be able to “do” this course through blackboard. You will, however, be able to do many things for this course more efficiently using blackboard. **You are automatically enrolled in blackboard. If after the first assignment you do not see a grade you must contact the instructor. Any issues with grades or attendance must be reported within a week of posting or changes will not be made.**
EVALUATION:

Grade Determination

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>25%</td>
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<tr>
<td>Exam 2</td>
<td>25%</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>25%</td>
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<tr>
<td>Project</td>
<td>15%</td>
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<tr>
<td>Class Participation</td>
<td>10%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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</tbody>
</table>

Grade Assignment

- A: 90% and above
- B: 80 – 89%
- C: 70 - 79%
- D: 60 - 69%
- F: Less than 60%

All assignments are due at the beginning of class. Late assignments will not be accepted. If you must be absent due to a University sanctioned event, it is your responsibility to complete the assignment early.

ASSIGNMENTS

You will be given four assignments during the term. These will usually consist of formulating models for various business problems, solving these models with software, and interpreting the computer output. Since the assignments are 25% of your grade and are good practice for the exams, you should make sure you complete these on time. Late assignments will only receive half credit at most, and will not be accepted after the following class period past the due date.

TERM PROJECT

During the second half of the term you will be given a project assignment. The project will consist of a relatively large problem which you will analyze and develop a solution for. You will write a consulting report describing your analysis and recommendations.

EXAM

There will be two exams given during the semester. The exams will cover material from class, lecture notes, assigned problems, and assigned readings from textbook. The exams are open notes and open book. Students are required to take tests at the scheduled time. Exams will not be accepted after the end of the scheduled time. When possible, exam results will be returned in the next scheduled class time.
There are no makeup exams. If you must be absent due to a University sanctioned event, you are responsible for notifying me with proper documentation and taking the exam early. See the University Catalog for additional information on University sanctioned absences.

**ATTENDANCE**

It is your responsibility to get the notes from another student if you miss a class. Supplementary material to support the lecture may be available on Blackboard. It is your responsibility to print off and bring the material to class. More so than for most courses, it is important to attend each class session. The concepts and techniques are often easier to understand in class than from reading the text. Attendance will be taken each class and is 10% of the course grade.

Appropriate class behavior is expected. Texting, surfing the web, reading the newspaper, sleeping, cell phones, arriving late and leaving early are examples of inappropriate behaviors. I reserve the right to change seating or make the classroom a no-laptop zone.

Students are expected to read the chapter material before class and be prepared to discuss. This is a very difficult class for some students, so reading the text before class will greatly assist you in understanding the material presented during class. You will learn more if you actively listen and participate in class discussions. We will work many problems in class.

**COLLEGE OF BUSINESS STATEMENT OF ETHICS:**

The ethical problems facing local, national and global business communities are an ever-increasing challenge. It is essential the College of Business and Technology help students prepare for lives of personal integrity, responsible citizenship, and public service. In order to accomplish these goals, both students and faculty of the College of Business and Technology at The University of Texas at Tyler will:

- Ensure honesty in all behavior, never cheating or knowingly giving false information.
- Create an atmosphere of mutual respect for all students and faculty regardless of race, creed, gender, age or religion.
- Develop an environment conducive to learning.
- Encourage and support student organizations and activities.
- Protect property and personal information from theft, damage and misuse.
- Conduct yourself in a professional manner both on and off campus.

**ACADEMIC DISHONESTY STATEMENT**

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.
Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment of the award of a degree, and/or the submission, as one’s own work of material that is not one’s own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

University regulations require the instructor to report all suspected cases of academic dishonesty to the Dean of Students for disciplinary action. In the event disciplinary measures are imposed on the student, it becomes part of the students’ official school records. Also, please note that the handbook obligates you to report all observed cases of academic dishonesty to the instructor.

This syllabus provides a general plan/schedule for this course. Based on the discretion of the instructor, deviations from the syllabus may be necessary. You will be given sufficient notice before any changes are made to the syllabus. You will be notified of all changes via notices posted to blackboard.

<table>
<thead>
<tr>
<th>Class Session</th>
<th>Chapter</th>
<th>Topic</th>
<th>Assignments (see Blackboard for detail)</th>
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<tbody>
<tr>
<td>8/31</td>
<td>1</td>
<td>Introduction to Management Science</td>
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<tr>
<td>9/7</td>
<td>2</td>
<td>Introduction to Linear Programming</td>
<td>Discuss A1</td>
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<td>9/14</td>
<td>3</td>
<td>LP Solutions &amp; Sensitivity Analysis</td>
<td>Discuss A2</td>
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<td>9/21</td>
<td>4</td>
<td>LP Application</td>
<td>A1 due</td>
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<td>9/28</td>
<td>5</td>
<td>Advanced LP Applications (DEA, Revenue Mgmt., Portfolio Models, Game Theory)</td>
<td>A2 due, Discuss A3</td>
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<td>10/5</td>
<td>17</td>
<td>LP Simplex, review for exam 1</td>
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<tr>
<td>10/12</td>
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<td>Exam 1</td>
<td>A3 due</td>
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<tr>
<td>10/19</td>
<td>6</td>
<td>Distribution &amp; Network Models</td>
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<td>10/26</td>
<td>7</td>
<td>Integer Linear Programming</td>
<td>Discuss Term Project</td>
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<td>11/2</td>
<td>8</td>
<td>Nonlinear Optimization Models</td>
<td>Discuss A4</td>
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<td>11/9</td>
<td>13</td>
<td>Decision Analysis</td>
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<td>11/16</td>
<td>11</td>
<td>Waiting Line Models</td>
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<td>11/23</td>
<td>12</td>
<td>Simulation</td>
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<tr>
<td>11/30</td>
<td>14</td>
<td>Multicriteria Decisions</td>
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<tr>
<td>12/7</td>
<td></td>
<td>Review for exam 1; work on projects</td>
<td>A4 due</td>
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<tr>
<td>12/14</td>
<td></td>
<td>Exam 2</td>
<td>Term Project due</td>
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**Students Rights and Responsibilities**
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:
http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html
**Grade Replacement/Forgiveness**
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

**State-Mandated Course Drop Policy**
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

**Disability Services**
In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. If you have a disability, including a learning disability, for which you request an accommodation, please contact Ida MacDonald in the Disability Support Services office in UC 282, or call (903) 566-7079.

**Student Absence due to Religious Observance**
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

**Student Absence for University-Sponsored Events and Activities**
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

**Social Security and FERPA Statement:**
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.
Emergency Exits and Evacuation:
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building

- Campus building occupants are required to evacuate buildings when a fire alarm activates. Alarm activation or announcement requires exiting and assembling outside.
- Familiarize yourself with all exit doors of each classroom and building you may occupy while receiving instruction. The nearest exit door may not be the door you used when entering the building.
- Students requiring evacuation assistance should inform the instructor during the first week of class.
- In event of an evacuation, follow the faculty’s or class instructor’s instructions.
- **Do Not** re-enter a building unless given instructions by the Fire Department, University Police Department, or Fire Prevention Services.