

STA 371G  
Statistics and Modeling  
Unique Number 04109  
UTC 3.102  
MW 8:00 – 9:30

**INSTRUCTOR**

Matt Kerwick

Hours: Monday and Wednesday 9:30 – 10:30am or by appointment

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**TEACHING ASSISTANT**

Sibei Wen

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**TEXTBOOK**

*Data Analysis and Decision Making*, 4th Edition, by Albright, Winston, and Zappe, 2011.

The CD is not necessary. If you prefer, digital copies are available at [cengagebrain.com](http://cengagebrain.com).

Professor Greenberg has ordered a custom version of this book, which only includes the chapters that we will cover. It can be purchased at the book store.

**GRADING**

Tests 80%

Homework 10%

Projects 10%

**COURSE DESCRIPTION**

Business decisions are made under uncertainty. This course provides tools for dealing with uncertainty. Upon completion of the course you should be able to apply decision analysis techniques, use regression analysis, and simulation modeling. This course is designed to present applications for these techniques and to deal with topics that prove most helpful to those involved in business.

**PREREQUISITES:**

The following prerequisites are enforced for this class: Management Information Systems 301 or 310; Mathematics 408D, 408L, or 408M; Statistics 309 or 309H; and credit or registration for Business Administration 324 or 324H. I am not able to make exceptions to prerequisites. Students are expected to be familiar with Excel and elementary statistics.

**ASSIGNMENTS:**

I will assign frequent homework assignments. These will be posted on the course website and are **due on Tuesdays by midnight**. The homework assignments are designed to keep you current in the course. The assignments are available online on the course web page. It is recommended that students work on assignments independently.

You may open an assignment (and even print it out) several times before submitting your answers. Click on the Submit button (at the bottom) when you are done. Assignments must be completed by midnight on their due dates. It is recommended that you do not wait until

the last minute to complete assignments. This will allow for any unexpected difficulties (with the material, website, etc.).

Once the deadline has passed, you will be able to see how you did on an assignment. Click on Tools and then Grades and then the automatically generated grade for the assignment to see the correct answers. *Ignore these HW grades.* Your TA will assign grades after each assignment is due.

Two longer projects will be assigned for this class. One will involve decision making under uncertainty and the other will involve regression modeling.

### **COMPUTING**

This course will provide you with skills to analyze business problems with tools you will have access to and will use during your career. We will use Microsoft Excel in addition to Decision Tools Suite (Stat Tools, Precision Tree, and @Risk) for increased capability. If you bought a new copy of the textbook, the CD includes this software. If not, you can download it from the McCombs website at <http://www.mcombs.utexas.edu/services/cbacc/coe/>. You will need your UTEID and password to download the software.

The Decision Tools Suite runs only on Windows machines. If you use a Macintosh computer, you must use a Windows emulator such as Parallels. Alternatively, you can use the computers in the MOD Lab or Millennium Lab. Some class meetings will be held in the MOD Lab to help you become familiar with the software.

### **TESTS**

The tests for this class will be given in the Mod Lab during class time on February 15, April 2, and May 2. You will access the test through Blackboard and have Excel and Decision Tools available. You may bring a calculator to the tests. You may bring one 8.5" by 11" page (both sides) of notes to the first and second test. You can bring 3 pages to the third test. You must bring a picture ID to each test. The third test will be cumulative.

There will be no make-up tests. Your third test grade can replace one lower test grade. You must inform the professor in advance if you are going to miss a test due to observance of a religious holiday or an official university activity.

### **WEB PAGE** <http://courses.utexas.edu>

This course will use a password-protected class web site. Syllabi, notes, assignments, and other resources will be available within this site. Site activities will include submission of assignments and posting of grades. Students who do not want their names included in the electronic class roster must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information see: <http://www.utexas.edu/student/registrar/catalogs/gi00-01/app/appc09.html>. Students who have restricted their directory information must see the professor to identify him or herself.

### **SCHOLASTIC DISHONESTY**

The McCombs School of Business has no tolerance for acts of scholastic dishonesty. The responsibilities of both students and faculty with regard to scholastic dishonesty are described in detail in the Policy Statement on Scholastic Dishonesty for the McCombs School of Business:

By teaching this course, I have agreed to observe all of the faculty responsibilities described in that document. By enrolling in this class, you have agreed to observe all of the student responsibilities described in that document. If the application of that Policy Statement to

this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification. Policy on Scholastic Dishonesty: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Judicial Services website at <http://deanofstudents.utexas.edu/sjs/> or the General Information Catalog to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

### **STUDENTS WITH DISABILITIES**

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. This includes students with learning disabilities. For more information, contact the [Office of the Dean of Students](#) at 471-6259, 471-4641 TTY.

**TENTATIVE COURSE SCHEDULE**

<b>Dates</b>	<b>Topic</b>	<b>Reading</b>	<b>Assignment</b>
<b>Jan 18</b>	Introduction		
<b>Jan 23</b> <b>Jan 25</b>	Probability Review <b>Meet in Mod Lab on 1/25</b>	4.1–4.3 5.1–5.3	HW 1 Jan 24
<b>Jan 30</b> <b>Feb 1</b>	Decision Trees	6.1–6.3	HW 2 Jan 31
<b>Feb 6</b> <b>Feb 8</b>	Value of Information <b>Meet in Mod Lab on 2/6</b>	6.4, 6.5	HW 3 Feb 7
<b>Feb 13</b>	Review of Inference	7.4.3, 7.4.4	HW 4 Feb 28
<b>Feb 15</b>	Test 1 <b>Meet in Mod Lab on 2/15</b>		Project 1 Feb 21
<b>Feb 20</b> <b>Feb 22</b>	Linear and Curved Patterns	10.1–10.4, 10.6.3	HW 5 Mar 1
<b>Feb 27</b> <b>Feb 29</b>	Inference for Regression	11.1–11.3, 11.10	HW 6 Mar 8
<b>Mar 5</b> <b>Mar 7</b>	Assessing Assumptions	11.8-11.9	HW 7 Mar 22
<b>Mar 19</b> <b>Mar 21</b>	Multiple Regression <b>Meet in Mod Lab on 3/19</b>	10.5, 10.6.1-2	HW 8 Mar 29
<b>Mar 26</b> <b>Mar 28</b>	Building Regression Models	11.4–11.7	
<b>April 2</b>	Test 2 <b>Meet in Mod Lab on 4/2</b>		Project 2a April 3
<b>April 4</b> <b>April 9</b> <b>April 11</b>	Time Series	12.1–12.4, 12.7-12.9	HW 9 April 10
<b>April 16</b> <b>April 18</b>	Introduction to Simulation <b>Meet in Mod Lab on 4/18</b>	4.4, Ch 15	HW 10 April 17
<b>April 23</b> <b>April 25</b>	Simulation Models <b>Meet in Mod Lab on 4/25</b>	Ch 16	HW 11 April 24
<b>April 30</b> <b>May 2</b>	Review and Test 3 <b>Meet in Mod Lab on 5/2</b>		Project 2b May 3