

First-Day Handout for Students
MATH 1342 Elementary Statistics
Session: Fall 2009 / Spring 2010 / Summer 2010

Synonym and Section:	Time:	Campus and Room:
Instructor:		
Office Number:	Office Hours:	
Office Phone:		
Email:	How to arrange other times by appointment:	

Course Description: A first course in statistics for students in business; nursing; allied health; or the social, physical, or behavioral sciences; or for any student requiring knowledge of the fundamental procedures for data organization and analysis. Topics include frequency distributions, graphing, measures of location and variation, the binomial and normal distributions, z-scores, t-test, chi-square test, F-test, hypothesis testing, analysis of variance, regression, and correlation. Skills: S Prerequisites: A satisfactory score on the ACC Mathematics Assessment Test. A second option is an appropriate secondary school course (Algebra II) and completion of any TSI-mandated mathematics remediation.

Note: **Texas State University** recently changed their Transfer Guide to show that MATH 1342 is no longer considered equivalent to their QMST 2333 (Quantitative Methods). ACC's BUSG 2371 is the correct equivalent to that course, which is needed for most majors in business.

Statement of Prerequisite Requirements: Students who satisfied the TSI math requirement by passing the THEA, COMPASS, or ASSET, or by ACC courses have satisfied the math prerequisite requirement for this course. Students should also have college-level reading skills. A student who is exempt from TSI or satisfied the TSI requirement in another way must also pass one of those tests unless she has passed high school Algebra II to satisfy the prerequisite. The new MATD 0385 (offered first in Fall 2009) is specifically designed to prepare students for 1332, 1333, and 1342.

Students in MATH 1342 will be expected to:

1. understand material from the text after reading it.
2. do homework using fairly complicated formulas after seeing one example
3. do some, but not much, algebraic manipulation of formulas

Required Materials: One package includes both the new text and an access code for *StatsPortal*: ISBN 1429239301

- *The Basic Practice of Statistics*, 5th ed., by David S. Moore (with CD)
- Access to the electronic *MINITAB Manual to accompany The Basic Practice of Statistics*. Details are available at <http://www.austincc.edu/mthdept2/notes/1342> . This is available in *StatsPortal*. *StatsPortal* has many additional useful supplements.

Required Technology: (More information – <http://www.austincc.edu/mparker/1342/tf>)

1. Scientific calculator
2. Access to MINITAB computer software. **You are not required to buy this.** Use it in the math labs, ICTS labs, and the Learning Labs. <http://irt.austincc.edu/CollegeComputers/> If you buy a copy, please see the appropriate section of the above website for information in installing it and making the textbook data available to it.
3. Internet access to use the supplements in *StatsPortal* or the *Online Study Center*. Internet access is provided in several computer labs at ACC.

Instructional Methodology: This course is taught in the classroom as a lecture/discussion course.

Course Rationale: Students will learn to

1. Determine the aspects of a question, if any, for which statistics can provide relevant information.
2. Analyze statistical studies, particularly regarding appropriate sampling and experimental design.
3. Select and use appropriate statistical analyses to get useful information from data.
4. Communicate knowledge using standard statistical language and also interpret it in non-technical language.

This course meets the Core Curriculum requirement in mathematics. It meets the requirement for an introductory statistics course for students in many majors such as business, health sciences, and social sciences.

Calendar:

16-week semester

Week 1: 1, 2
Week 2: 3, 4
Week 3: 4, 5
Week 4: 5, 6
Week 5: 7, 8
Week 6: 9, Data Ethics, 10
Week 7: 11, 14
Week 8: 14, 15
Week 9: 15, 16
Week 10: 17, 18
Week 11: 18, 19
Week 12: 20, 21
Week 13: 22
Week 14: 23
Week 15: optional chapter
Week 16: Final Exam

11-week semester

Week 1: 1, 2, 3
Week 2: 3, 4, 5
Week 3: 5, 6, 7
Week 4: 8, 9, Data Ethics, 10
Week 5: 11, 14
Week 6: 14, 15, 16
Week 7: 17, 18, 19
Week 8: 20, 21, 22
Week 9: 23
Week 10: optional chapter
Week 11: Final Exam

6-week semester

Week 1: 1, 2, 3, 4, 5
Week 2: 5, 6, 7, 8, 9, Data Ethics, 10
Week 3: 11, 14, 15, 16
Week 4: 17, 18, 19, 20, 21
Week 5: 22, 23
1/2 week: optional chap., Exam

Suggested Testing Scheme

- Test 1: through Chapter 4
- Test 2: through Chapter 9
- Test 3: through Chapter 16 (omitting Chs. 12 & 13)
- Test 4: through Chapter 21
- Test 5: through the end of the course

Course objectives: The departmental course objectives will be provided to the students as a part of the first-day handout. Find them at <http://www.austincc.edu/mthdept2/tfcourses/obj1342.htm>

Grading policy: The instructor's grading criteria will be clearly explained in the first-day handout. The criteria will specify the number of exams and other graded material (homework, assignments, projects, etc.). Guidelines for other graded materials, such as homework or projects, should also be included in the syllabus. This must include an appropriate amount of work using MINITAB. These guidelines must also specifically include:

- Missed exam policy
- Policy about late work
- Class participation expectations

Additional course policies:

1. Course policies on the following topics will be included. Recommendations by this course committee and the mathematics department are listed below and may be modified by the instructor.
 - Incomplete Grades

- Attendance
- Withdrawals (must include withdrawal date)
- Reinstatement policy (if the instructor allows this option)
- Testing Center policies (if the instructor uses the Testing Center)
- Course-specific support services

2. The following statements will be included and instructors must use the statements provided by the college/mathematics department and found in the front part of this *Manual*. Go to www.austincc.edu/mthdept5/mman09/statements.html Insert full statement for each of the following in your syllabus.

- Statement on Students with Disabilities
- Statement on Scholastic Dishonesty
- Recommended Statement on Scholastic Dishonesty Penalty
- Statement on Academic Freedom
- Student Discipline Policy

Suggestions:

- **Incomplete Grades:** Recommended version: “Incomplete grades (I) will be given only in very rare circumstances. Generally, to receive a grade of "I", a student must have taken all examinations, be passing, and after the last date to withdraw, have a personal tragedy occur which prevents course completion.”
- **Attendance Policy:** Following is the mathematics department’s recommended attendance policy for classes that meet two days per week in a 16-week term. Modifications should be made for classes of different lengths. Instructors must include some attendance policy, even if it is that attendance is not required.
“Attendance is required in this course. Students who miss more than 4 classes may be withdrawn.”
- **Withdrawal Policy** (including the withdrawal deadline for the semester): Recommended version: “It is the student's responsibility to initiate all withdrawals in this course. The instructor may withdraw students for excessive absences (4) but makes no commitment to do this for the student. After the withdrawal date (include specific date), neither the student nor the instructor may initiate a withdrawal.”
- **Reinstatement Policy:** If the instructor chooses to allow reinstatements, he must include a statement about the circumstances under which is it allowed. One possible statement is: “In order to be reinstated, the student must demonstrate that he is caught up with the required work as of the date on which he wishes to be reinstated. This must be done before the official last date to withdraw for the semester.”
- **Testing Center:** Include “ACC Testing Center policies can be found at: <http://www.austincc.edu/testctr/>” Then add any instructor-specific policies on the use of the testing center.
- **Course-specific support services:** Recommended version: “ACC main campuses have Learning Labs which offer free first-come first-serve tutoring in mathematics courses. Students should bring their text, course handouts, and notes when they come to the Learning Lab. The locations, contact information and hours of availability of the Learning Labs are available from <http://www.austincc.edu/tutor>” **Additionally, if your campus is offering a section of MATH 0159, Elementary Statistics Lab, give specific information about that.**

Suggested Homework Guidelines and Exercises, MATH 1342, BPS 5th edition

Which exercises:

The main homework exercises are listed in bold type in the list on the next page. The non-bold exercises at the in brackets at the beginning of each chapter's list are for those who need immediate practice as they are reading through the chapter. Some of them will probably be covered in the lecture.

Checking answers and showing your work:

Most of the assigned exercises have short answers in the back of the book, and more complete answers in StatsPortal. You may be tempted to read the exercise, read the answer, and then decide whether it makes sense to you. That is **not** a good strategy to learn the material. In order to be able to do problems like these on tests, you must practice doing them yourself. Use the textbook examples when you want to read a solution and the exercises to practice solving them yourself. Work the exercise yourself completely, or at least write a question about what you don't understand before you look at the answer. See homework notes for the first six chapters: <http://www.austincc.edu/mparker/1342/tf/>

Check Your Skills questions:

These short multiple-choice questions at the end of each chapter before the exercises are provided so that you can quickly determine whether you have seen the basic ideas in the chapter. Before you start the homework, use these to give yourself a quick overview of the material. If you miss any, review that section of the chapter before starting the exercises.

Analysis, Interpretations, and Conclusions

Statistics is not a typical math course. If your concept of a math course is to learn an algebraic technique and then work several problems using algebraic notation with that technique, this course will seem unusual to you. You will learn techniques and work some problems using numerical and algebraic notation, but in almost all cases, you'll be expect to say something about the meaning of what you have computed. The answers in the back of the book don't have the full analysis and conclusions that you are expected to write. The examples in the text do have models of those analyses and conclusions and the answers in StatsPortal have that as well. In order to succeed in this course, you must practice this as you go through the homework. In order to help you get off to a good start on this, additional comments on what you are supposed to be learning from the homework problems are available for the first six chapters. Find those on the course website <http://www.austincc.edu/mparker/1342/tf/>

Technology:

Problems with (M) have some part for which you are required to use MINITAB, specifically. Problems with (A) require an applet. Find these applets in StatsPortal or on the publisher's website. You may use MINITAB on additional exercises if you wish.

Find the data files for the textbook from <http://www.austincc.edu/mparker/software/data/>. This website is used to get the data into both Minitab and into Crunch-It. There is a link to this from the course website at <http://www.austincc.edu/mparker/1342/tf/>. An orientation to the software is also available, and, mixed in with the data files are some notes with help.

On the problems requiring technology, as on all homework, you should spend as much time and thought answering questions about what the results mean as you spend calculating. Your answers should reflect this. During the tests, you will not have computer access and may not even be allowed to use a graphing calculator. Test questions will be adjusted to reflect the tools you have available at that time. Ask your instructor in advance what you will be allowed to use on each test.

Chapter 1: [1.1, 1.3, 1.5, 1.7, 1.9, 1.11, 1.13-1.22], **1.23, 1.24, 1.27, 1.29, 1.31, 1.33, 1.37, 1.40, 1.41, 1.45(M), 1.46(T)**

Chapter 2: [2.1, 2.3, 2.7, 2.9, 2.11(M to find st dev and mean), 2.12, 2.13, 2.15-2.24], **2.25, 2.30, 2.31, 2.33(A), 2.35(M), 2.37(M), 2.38, 2.39, 2.45(M), 2.49**

Chapter 3: [3.1, 3.2, 3.4, 3.5, 3.7, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15-3.24], **3.25, 3.27, 3.29, 3.31, 3.33, 3.35, 3.36, 3.39, 3.43, 3.45, 3.47, 3.49(M), 3.52(A)**

Chapter 4: [4.1, 4.3, 4.5, 4.7, 4.9, 4.11, 4.13(M), 4.14-4.23], **4.25, 4.28(M), 4.31(M), 4.35(by hand), 4.37, 4.38, 4.39, 4.40(A), 4.41(A), 4.43(M)**

Chapter 5: [5.1, 5.3(M), 5.5, 5.7(M), 5.9(A), 5.11(M), 5.13, 5.15, 5.17-5.26], **5.27, 5.29, 5.31, 5.33, 5.34(M for equation, the rest by hand), 5.37(M), 5.38(M), 5.39(M), 5.41(M and then draw the lines on the graph by hand), 5.43, 5.49(A), 5.53(M), 5.55(M)**

Chapter 6: [6.1, 6.3, 6.5, 6.7, 6.8 – 6.17], **6.19, 6.20, 6.21, 6.22, 6.23, 6.25, 6.27, 6.31, 6.32**

Chapter 7: Review **7.1, 7.7, 7.9, 7.11, 7.17, 7.22(M), 7.25(M), 7.29, 7.31, 7.35(M), 7.36(M)**

Chapter 8: [8.1, 8.3, 8.5, 8.7, 8.9, 8.11, 8.13, 8.15, 8.16 – 8.24], **8.25, 8.29, 8.31, 8.33, 8.37, 8.38, 8.39(by hand AND with M), 8.41, 8.45, 8.47**

Chapter 9: [9.1, 9.3, 9.5, 9.7, 9.9, 9.11, 9.13, 9.15, 9.17, 9.19 – 9.27], **9.29, 9.31, 9.35, 9.37(by hand as written and with M assign all), 9.43, 9.44, 9.47, 9.48, 9.49**

Data Ethics (page 256-260): **1, 3, 7**

Chapter 10: [10.1, 10.3, 10.5, 10.7, 10.9, 10.11, 10.13, 10.15, 10.16, 10.17, 10.21 – 10.30], **10.31, 10.33, 10.39, 10.41, 10.43, 10.47, 10.49, 10.50, 10.51, 10.52, 10.57(A)**

Chapter 11: [11.1, 11.3, 11.5, 11.7(M), 11.9, 11.11, 11.13, 11.14 – 11.21], **11.23, 11.26, 11.27, 11.29, 11.33, 11.34, 11.35, 11.37**

Chapter 14: [14.1, 14.9, 14.11, 14.15, 14.21, 14.23], **14.2(A), 14.5(M), 14.7, 14.17(A), 14.19, 14.34, 14.36, 14.37, 14.43, 14.55(M), 14.57**

Chapter 15: [15.11, 15.31, 15.33, 15.35, 15.39], **15.7(A), 15.8(A), 15.9, 15.29, 15.32, 15.38, 15.41**

Chapter 16: [16.5, 16.11, 16.15, 16.19, 16.31], **16.6(M), 16.9, 16.17, 16.22, 16.27, 16.29, 16.32, 16.45(M), 16.47(M), 16.48**

Chapter 17: [17.5, 17.7, 17.11(M), 17.33, 17.36], **17.13(M), 17.14(M), 17.29, 17.32, 17.37, 17.45(M), 17.47**

Chapter 18: [18.11, 18.29, 18.39, 18.41], **18.5(M), 18.9, 18.15, 18.25, 18.32, 18.33, 18.35(M), 18.37, 18.47(M), 18.50(M)**

Minitab Note: For chapters 19 and 20 the data is summarized. You must enter the sample size (trials) and the successes (events). There is no reason to use a data file.

Chapter 19: [19.11, 19.13(M), 19.29, 19.33, 19.37], **19.7, 19.9(M), 19.14, 19.27, 19.38(M), 19.39, 19.41, 19.43**

Chapter 20: [20.7, 20.17, 20.27, 20.31, 20.35(M)], **20.5, 20.8, 20.19(M), 20.21, 20.22, 20.23, 20.25, 20.32(M)**

Chapter 21: [21.1(M), 21.5, 21.6, 21.20, 21.21(M), 21.31], **21.3(M), 21.19(M), 21.23, 21.33, 21.35, 21.39, 21.44(M), 21.45(M)**

Chapter 22: [22.5, 22.35(M), 22.39, 22.41], **22.7, 22.9(M), 22.29(M), 22.32, 22.36**

Chapter 23: [23.2, 23.10, 23.13, 23.15(M), 23.25], **23.1(M), 23.4, 23.7, 23.9, 23.12, 23.29, 23.30, 23.31, 23.38(M)**