Statistics for Life MATH 1442.001
Department of Mathematics and Statistics
Summer I 2018

A. COURSE INFORMATION

Course number/section: MATH 1442.001
Class meeting time: TR 12:00-1:50 PM
Class location: IH-164
Course Website: https://bb9.tamucc.edu/webapps/login/

B. INSTRUCTOR INFORMATION

Instructor: Dr. Jose H. Guardiola
Office location: CI-309
Office hours: TR 10:30 AM- 12:00PM and 4:50 to 5:50 PM; other times by appointment
Telephone: (361) 825-5544
e-mail: jose.guardiola@tamucc.edu
Appointments: Via email

C. COURSE DESCRIPTION

An introduction to statistical concepts and methods used in all disciplines to enhance decision making based on data analysis, including: basic experimental design models, measurement and data collection through sampling; display and summary of information, and assessment of relationship through descriptive techniques; probability concepts leading to estimation and hypothesis testing of means, variance and proportions, regression analysis, one-factor ANOVA and chi-square test of independence; and applications through case studies. The laboratory component of the course offers applications of the theory presented during the classroom sessions. Counts as the mathematics component of the University Core Curriculum.

This course prepares students for taking higher level courses in statistics and research and to understand the scientific literature in their field.

D. PREREQUISITES AND COREQUISITES

Prerequisites: MATH 0399 or placement beyond MATH 0399; also non-remedial status in Reading and Writing as determined by placement testing or THEA. Fall, Spring, Summer.

Corequisites: None

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required textbook: Electronic version of the textbook, Elementary Statistics by Mario F. Triola, 13th edition, it is included in the MyStatLabsPlus system. You can buy either the
loose leaf version of Triola, Elementary Statistics 13th Ed. and access code with ISBN 9781323774731, or the (cheaper) MyLab Statistics Plus with Pearson eText Standalone Access Card 9781323745175. You can also either buy the hardcover bundled version (more expensive) with ISBN 9781323774724. You can get any of these options through the campus bookstore or you can buy the access code directly from the publisher at the website https://tamucc-mlpui.openclass.com. I recommend checking both sources before buying.

Optional Textbook(s) or Other References

Earlier editions of Triola, Elementary Statistics will probably be just as helpful and hopefully cheaper as well for the textbook part only, but you still need to buy the standalone access code as described above.

Supplies

Access to MyLabsPlus system is included with the standalone access code, or the bundled versions mentioned at the required textbook section. I will discuss how you access and use MyLabsPlus during our first class meeting.

JMP software (JMP Pro®, Version 13, Copyright © 2013 SAS Institute Inc., Cary, NC) will be provided in the Lab and does not need be purchased unless you intend to work on labs at home.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Students will be able to use descriptive statistics and graphical exploration to summarize key features of data.
2. Students will be able to perform elementary probability calculations, primarily with the normal distribution and including applications of the Central Limit Theorem.
3. Students will be able to calculate confidence intervals and perform hypothesis tests of the following forms: one and two sample t-tests, Chi-square test, ANOVA, and linear regression.
4. Students will be able to determine an appropriate statistical analysis, given data and a research question.
5. Students will be able to interpret the results of all calculations and statistical tests in the context of the processes that generate that data, and will be able to express these interpretations clearly in writing.
6. Students will be able to use appropriate technology tools to perform needed calculations and tests.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Methods for instruction include the following:
- Lecture.
- Demonstrations.
- Use of computer resources, including statistical software, spreadsheets, and the Internet for data location, data organization, and data analysis.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Final course standing will be based upon homework, quizzes, two semester tests, lab section grade, and a final test each weighted as follows

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two semester exams</td>
<td>20 % each</td>
</tr>
<tr>
<td>Quizzes MyLabsPlus</td>
<td>10%</td>
</tr>
<tr>
<td>Homework MyLabsPlus</td>
<td>15%</td>
</tr>
<tr>
<td>Lab Section</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE (BY WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-T</td>
<td>Introduction and graphing</td>
<td>Chapters 1 and 2</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>1-R</td>
<td>Descriptive Statistics</td>
<td>Chapter 2</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>2-T</td>
<td>Numeric Summaries</td>
<td>Chapter 3</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>2-R</td>
<td>Probability</td>
<td>Chapter 4</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>3-T</td>
<td>Probability</td>
<td>Chapter 4</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>3-R</td>
<td>Discrete Probability Distributions</td>
<td>Chapter 5 and Review</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>4-T</td>
<td>Continuous Probability Distributions</td>
<td>Chapter 5</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>Day</td>
<td>Topic</td>
<td>Chapter</td>
<td>Location</td>
</tr>
<tr>
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<tr>
<td>4-R</td>
<td>Continuous Probability Distributions</td>
<td>Chapter 6</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>5-T</td>
<td>Continued - Continuous Probability Distributions</td>
<td>Chapter 6</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>5-R</td>
<td>Continued – Estimates and Sample Sizes</td>
<td>Chapter 7</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>6-T</td>
<td>Hypothesis Testing</td>
<td>Chapter 8</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>6-R</td>
<td>Continued – Hypothesis Testing</td>
<td>Chapter 8</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>7-T</td>
<td>Two samples Hypothesis Testing and Exam 2* during lab section</td>
<td>Chapter 9</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>7-R</td>
<td>Continued-Two samples Hypothesis Testing</td>
<td>Chapter 9</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>8-T</td>
<td>Correlation and Regression</td>
<td>Chapter 10</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>8-R</td>
<td>Correlation and Regression</td>
<td>Chapter 10</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>9-T</td>
<td>Contingency Tables</td>
<td>Chapter 11</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>9-R</td>
<td>ANOVA</td>
<td>Chapter 12</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>10-T</td>
<td>Review</td>
<td>Review</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>10-R</td>
<td>Final Exam*** taken in labs</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Exam 1 – June 19 administered during lab time
** Exam 2- July 12 administered during lab time
*** Final Exam – August 3

MyLabsPlus due dates for homework and quizzes:
- Chapter 1 through 5, June 20 at 8:00 am
- Chapter 6 through 8, July 13, at 8:00 am
- Chapters 9 through 12, August 1, at midnight

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

**Attendance/Tardiness**
Attendance will be taken each class. Talking during class time and tardiness are often disruptive to the whole class and are not appreciated. If you are delayed and arrived late please do so quietly. Excessive tardiness, disruptive talking, disruptive behavior or performing activities not related to the class will be counted as absences. The instructor is NOT responsible for informing absent students what was covered in previous classes,
homework or any other announcements. Good attendance will help me to determine borderline grades.

**Late Work and Make-up Exams**
MyLabsPlus homework will have a 10% penalty after the due date, quizzes will be closed. There will be no makeup for a missed exam. Please see section below regarding the exams policy.

**Exams Policy**
The lowest score of one of the two tests administered during the semester will be replaced by the score on the final test, provided that the final test score is better than one of the semester test scores. A missed test score will be replaced following the policy described above. The final test score will not be replaced by the semester test scores. You are allowed to bring in one page of notes for the semester tests and two pages of notes for the final exam, written or typed on both sides on a sheet not larger than 8.5”x11”. Your name should be written at the top of the page in large and clear letters. Pages of notes and/or calculators cannot be shared. Cell phones cannot be used as calculators. No music devices are allowed during the examinations. Scratch paper and formula sheets will be provided during the examination and should be returned to the instructor. No other webpages should be opened during a computer administered exam. If extra points are given, the total score should not exceed 100%. No points will be “saved” toward the next examination.

**Special note about schedule conflicts**
Please notice that this course extends well into the summer II session. If you are registered to take courses during the summer II session please check for possible schedule conflicts during summer II session as in the past the scheduling system did not impede you to register in courses with a schedule conflict. I strongly suggest that you avoid such schedule conflicts. If you insist on taking both courses with a schedule conflict please note that you assume full responsibility as there will not be a special treatment for students registered on such courses.

**Cell Phone Use**
Cell phones and such must be turned off before class.

**Laptop Use**
Laptop and tablets usage is permitted only for following the lecture material presented during class time.

**K. COLLEGE AND UNIVERSITY POLICIES**
- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is
subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details,
including the responsibilities of the parties involved in the process and the number of
days allowed for completing the steps in the process, see University Procedure
13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible
through the University Rules website at
http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science
and Engineering Grade Appeals webpage at
http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the
grade appeal process, students may contact the chair or director of the appropriate
department or school, the Office of the College of Science and Engineering Dean, or the
Office of the Provost.

- **Disability Services**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that
provides comprehensive civil rights protection for persons with disabilities. Among other
things, this legislation requires that all students with disabilities be guaranteed a learning
environment that provides for reasonable accommodation of their disabilities. If you
believe you have a disability requiring an accommodation, please call (361) 825-5816 or
visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access
issues in the classroom or on campus, please contact the Disability Services office
for assistance at (361) 825-5816.

http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
In the event of an unforeseen adverse event, such as a major hurricane and classes
could not be held on the campus of Texas A&M University–Corpus Christi; this
course would continue through the use of Blackboard and/or email. In addition,
the syllabus and class activities may be modified to allow continuation of the course.
Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be
operational within two days of the closing of the physical campus. However,
students need to make certain that the course instructor has a primary and a
secondary means of contacting each student.

**L. OTHER INFORMATION**

- **Academic Advising**
The College of Science & Engineering requires that students meet with an Academic
Advisor as soon as they are ready to declare a major. The Academic Advisor will set
up a degree plan, which must be signed by the student, a faculty mentor, and the
department chair. Meetings are by appointment only; advisors do not take walk-ins.
Please call or stop by the Advising Center to check availability and schedule an
appointment. The College’s Academic Advising Center is located in Center for
Instruction 350 or can be reached at (361) 825-3928.

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.