Statistics for Life MATH 1442.007
Department of Mathematics and Statistics
FALL 2019

A. COURSE INFORMATION
   Course number/section: MATH 1442.007
   Class meeting time: TR 2:00 – 3:15 pm
   Class location: IH - 163
   Course Website: www.bb9.tamucc.edu

B. INSTRUCTOR INFORMATION
   Instructor: Haekyoung Choi
   Office location: CI - 351
   Office hours: M & W 2:00 – 4:00 pm / R 12:00 – 1:00 pm
   Email: haekyoung.choi@tamucc.edu
   Appointments: Email for setting up an appointment

C. COURSE DESCRIPTION
   Catalog 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 0320 or placement beyond MATH 0320; also non-remedial status in Reading and Writing as determined by placement testing or TSI.

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 MyLabsPlus system. For buying an access code to MyLabsPlus, please see the supplies section below.

   Optional Textbook(s) or Other References
   If you want a hard copy of the textbook (Elementary Statistics by Mario F. Triola), the current binder edition is the 13th, ISBN-10: 0134463064. Earlier editions will probably be just as helpful and hopefully cheaper as well. 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.
Supplies
MyLabsPlus access kit is required for homework and quizzes. The ISBN for MyLabsPlus code only is 9780558926809. You will need to purchase an access code, either through the campus bookstore or directly from the publisher at the website. I recommend checking both sources before buying it. I will discuss how you access and use MyLabsPlus during the first class meeting. An electronic version of the textbook is included inside the MyLabsPlus system.
A TI-83/84 plus graphing calculator is recommended for the course. TI-Nspire is NOT allowed to be used during the exams.

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, three 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>Three semester exams</td>
<td>15% 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>15%</td>
</tr>
</tbody>
</table>

Grades will be assigned according to the following scale.

<table>
<thead>
<tr>
<th>A – 90%-100%</th>
<th>B - 80%-89.99%</th>
<th>C – 70%-79.99%</th>
<th>D – 60%-69.99%</th>
<th>F - below 60%</th>
</tr>
</thead>
</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</td>
<td>Syllabus discussion</td>
<td>Chapter 1</td>
<td>MLP</td>
</tr>
<tr>
<td></td>
<td>Introduction and Basic concepts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Graphing</td>
<td>Chapter 2</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>3</td>
<td>Numeric Summaries</td>
<td>Chapter 3</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>4</td>
<td>Probability &amp; <strong>Exam 1</strong> during lab section</td>
<td>Chapter 4</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>5</td>
<td>Discrete Probability Distributions</td>
<td>Chapter 5</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>6</td>
<td>Continuous Probability Distributions</td>
<td>Chapter 6</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>7</td>
<td>Continuous Probability Distributions</td>
<td>Chapter 6 and 7</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>8</td>
<td>Estimates and Sample Sizes</td>
<td>Chapter 7 and 8</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>9</td>
<td>Hypothesis Testing &amp; <strong>Exam 2</strong> during lab section</td>
<td>Chapter 8</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>10</td>
<td>Two Samples Hypothesis Testing</td>
<td>Chapter 9</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>11</td>
<td>Correlation and Regression</td>
<td>Chapter 10</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>12</td>
<td>Correlation and Regression <strong>Exam 3</strong> during lab section</td>
<td>Chapter 10</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>13</td>
<td>Contingency Tables</td>
<td>Chapter 11</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>14</td>
<td>Thanksgiving Holidays</td>
<td>Chapter 12</td>
<td>MLP</td>
</tr>
<tr>
<td>15</td>
<td>ANOVA &amp; Final Exam Review</td>
<td>Chapter 12 &amp; Review</td>
<td>MLP and Labs</td>
</tr>
<tr>
<td>16</td>
<td><strong>Final Exam</strong> taken in the lecture class (paper exam)</td>
<td>December 10, Tuesday 1:45 – 4:15 pm</td>
<td></td>
</tr>
</tbody>
</table>

### Important Dates

**THANKSGIVING HOLIDAY BREAK – NOVEMBER 28th – 29th - NO CLASS**

* Exam 1 – September 16 - 20 administered during lab time
** Exam 2 – October 21 - 25 administered during lab time
*** Exam 3 – November 11 - 15 administered during lab time
**** Final Exam – December 10 administered in the lecture class (paper exam)

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 and quizzes will have a 10% penalty after the due date. Final submission is due on December 5th by Midnight.
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 three 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 semester test grade 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.

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 UNIVERSITIT 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.