# MAT\*K167 Principals of Statistics Fall 2017

T3 TR 11:00 am - 12:15 pm **D226** 

**INSTRUCTOR**: Dr. Kelly Molkenthin (pronounced "molk-in-tine")

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Email: kmolkenthin@trcc.commnet.edu

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Office Hours: Mondays 12:15 pm - 1:15 pm

Tuesdays 3:30 pm – 4:30 pm Wednesdays 9:15 am – 10:15 am Thursdays 9:45 am – 10:45 am

and by appointment.

# **REQUIRED MATERIAL:**

• MyStatLab access code

• Calculator that supports 2-variable statistical calculations (preferably the TI-83 or TI-84).

# **RECOMMENDED MATERIAL:**

Elementary Statistics, 13th Edition. Mario F. Triola. Pearson Prentice Hall, ISBN # 978-0-13-446245-5

**CALCULATORS**: Calculators will be needed for many homework problems and it is REQUIRED that you bring one to <u>each class</u> and <u>every quiz</u>. Cell phones may NOT be used as calculators. It is highly recommended that you have a **TI-83** or **TI-84**.

**COMPUTERS**: Online homework will be assigned regularly and will be completed using MyLab and Mastering at <a href="https://www.pearsonmylabandmastering.com">www.pearsonmylabandmastering.com</a>. If you did not purchase a book which has an access code bundled with it, you will have to purchase an access code separately.

# To register for Principles of Statistics - Fall 2017:

- 1) Go to www.pearsonmylabandmastering.com and click on "Get Registered" in the Students tab.
- 2) Be sure you have the information needed then select "OK! Register now".
- 3) Enter the course ID, molkenthin57714, then click on Continue.
- 4) If you already have a Pearson account (you've used MyMathLab, MyITLab, MyPsychLab, ... or Course Compass before), enter your **username** and **password** and click "**Sign In**".

If you do not yet have a Pearson account, click on "Create" under "Create a Pearson Account" and complete the required fields.

- \*\*Be sure to remember/record your user name and password. Forgetting your user name and/or password is NOT a valid reason for not completing assignments.
- 5) Select an access option.
- Use the access code that came with your textbook or that you purchased separately.
- Buy access using a credit card or PayPal account
- ➢ Get 14 days temporary access (the link is at the bottom of the screen). If you choose 14 day temporary access, you will need to purchase full access prior to the end of the 14 day access.
- 6) From the conformation page, select "Go To My Courses"
- 7) On the My Courses page, select the course tile "Principles of Statistics" to start your work.

# To sign in later:

- 1) Go to www.pearsonmylabandmastering.com
- 2) Select "Sign In"
- 3) Enter your Pearson account username and password and Sign In
- 4) Select the course tile **Principles of Statistics**

# To upgrade temporary access to full access:

- 1) Go to www.pearsonmylabandmastering.com
- 2) Select Sign In
- 3) Enter your Pearson account username and password and Sign In
- 4) Select Upgrade access from the course tile Principles of Statistics
- 5) Enter and access code or purchase with a credit card or PayPal account

**GRADING**: 3 Exams: 225 points (75 each)

Final Project: 200 points Final Exam (cumulative): 100 points

Weekly Quizzes: 200 points (20 each)

MyStatLab 100 points Attendance/Participation/Class Work: 75 points

Total: 900 points

Your final grade is the total number of points you have received divided by the total possible number of points you could have earned. Final grades will be determined using the scale below:

$\mathbf{A} \rightarrow 93\%$ and above	$A-\rightarrow 90-92\%$	
$\mathbf{B+}  o 87 - 89\%$	$\mathbf{B} \rightarrow 83$ - $86\%$	$\textbf{B-} \rightarrow 80 - 82\%$
$C+ \rightarrow 77 - 79\%$	$\mathbf{C} \rightarrow 73 - 76\%$	$\textbf{C-} \rightarrow 70 - 72\%$
$D+ \rightarrow 67 - 69\%$	$D \to 63 - 66\%$	$D- \rightarrow 60 - 62\%$

**EXTRA CREDIT:** There will be **no** "extra credit" assignments for this course.

ATTENDANCE: Attendance is required and will be taken for each class. An absence is excused ONLY for valid reasons (to be determined by the instructor) and if notification is given PRIOR to a missed class (via email, phone message – not word of mouth from another student). \*\*All absences reported by phone or reported to instructor in person must be followed up with an email, or they will be considered unexcused. Oversleeping and "colds" are examples that are not valid reasons for an absence. Do you best to not miss ANY classes!! Excused absences will not affect your Attendance/Participation/Class Work grade, unexcused absences will lower your Attendance/Participation/Class Work grade. Students are allowed a maximum of 2 excused absences per semester.

\*\*\*Also, if you miss a class it is **YOUR** responsibility to get the class notes from another student (refer to your class list) and **BE PREPARED** for the next class meeting (this includes taking the scheduled quizzes).\*\*\*

**Note**: Class BEGINS at 11:00 am. It is expected that you will be in your seat and ready to go at this time. Plan on arriving to class 5 minutes prior to the scheduled start time. Students arriving after the start of class time will lose attendance points for that class. Excessive "lateness" will not be tolerated, it is disruptive to both the instructor and the class. Excessive lateness will result in classroom doors being locked at the designated class start time. Also, students leaving class prior to the scheduled end time will lose attendance points for that class unless arrangements have been made with the instructor prior to the class in which the student needs to leave early.

<sup>\*\*</sup> **Technical support** for the company is at 1-800-677-6337, Monday through Friday, 9 am – 6 pm.

**CLASS CANCELATION:** In the unlikely event that a class needs to be canceled by the instructor, a notice will be placed on the classroom door prior to the start of class. If time permits, you will be notified by the instructor via email as soon as possible prior to the canceled class.

For college cancelations, pay attention to the radio & TV announcements, call the college's main phone number, 860-215-9000, or visit the college's home page, <a href="www.trcc.commnet.edu">www.trcc.commnet.edu</a>. It is also suggested all students register for <a href="The myCommnet Alert Notification System">The myCommnet Alert Notification System</a>. This system is used to deliver important information to students, faculty, and staff regarding weather-related class cancellations. The system delivers both email messages, and text messages over cellular phones to those individuals who are registered. To register, log on to your myCommnet account at <a href="http://my.commnet.edu/">http://my.commnet.edu/</a> and follow the link to myCommnet Alert. Please: DO NOT email or call your instructor regarding college closings.

**HOMEWORK AND QUIZZES:** Homework (both from the text and online) will be assigned for every section we cover in the text. It is expected that you complete the online assigned problems by the due date and time on the assignment, and the homework in the text by the next class meeting.

For the online homework: For most assignments, you will have one week from the date in which the assignment was posted to complete your assignment for **full credit**. Once due dates have passed, assignments will remain open until the day of the exam which covers that material. This will give you the opportunity to complete any missed problems for ½ **credit**. \*\*Note: Deadlines for online homework will not go beyond the exam date for the exam that covers that material. All online assignments should be completed prior to taking the exam on that material. Watch your MyStatLab due dates carefully. All assignments are due by 11:59 pm on due dates.

<u>For text homework</u>: **Keep a separate notebook for your text homework**. It is expected homework from your text is completed, or at least reasonably attempted, by the next class meeting. Bring your homework notebook to every class meeting. BE SURE TO CHECK YOUR ANSWERS IN THE BACK OF THE TEXT. If you check the problem in the back of the text and it is not correct, re-do the problem. If you are struggling with the assignment, you need to seek out help either from your instructor or the tutor center ASAP!

Our expectation is that you are spending 2-3 hours of reading and doing homework for this class for every "academic" hour we meet in class. We meet 3 "academic" hours per week, therefore you should expect to spend *at least* 6 - 9 hours per week working on material for this class outside of our class meetings, every week!

\*NOTE: Class time is reserved for presentation of material. Homework questions will be answered before class begins, during office hours or at scheduled meetings, not during class time.

Your weekly in-class quizzes will be testing the concepts emphasized from class and your homework assignments. **There are no make-ups for missed quizzes**. You will be given at least 15 quizzes throughout the semester, only your top 10 scores will count toward your final grade.

**EXAMS**: You will have three online exams and one online final exam. Once any exam is opened, it needs to be completed in that sitting. ALL online exams are due at 11:59 pm on due dates. Your entire exam MUST be complete prior to 11:59 pm on the scheduled due date. I HIGHLY suggest not waiting until several hours prior to the due date/time to start your exam (perhaps you can "pretend" it is due the night before!). If you experience technical difficulties prior to 6:00 pm on the day the exam is due, let me know immediately via email or in our scheduled class meeting and we will fix the problem. If you experience technical difficulties after 6:00 pm on the day the exam is due, you need to resolve the issue on your own, if resolvable, and in either case, accept the resulting grade. Online exams **cannot** be reopened. Keep this in mind and plan accordingly.

Exams are scheduled to open on the following dates:

- ◆ Exam #1: opens Thursday 9/28, 12:15 pm, due Tuesday 10/3, 11:59 pm
- ◆ Exam #2: opens Thursday 11/2, 12:15 pm, due Tuesday 11/7, 11:59 pm
- ◆ Exam #3: opens Thursday 11/30, 12:15 pm, due Tuesday 12/5, 11:59 pm
- ♦ Final Exam: opens Tuesday 12/12, 12:15 pm, due Monday 12/18, 11:59 pm

This <u>may</u> change (but hopefully not), depending on how we are doing. No exam will be administered prior to the date/time of the scheduled exam and **if you miss an exam, you will receive a grade of 0 (zero)**. No exam will be opened past the due date/time.



\*\*\*Any student with a **93%** or higher average at the end of the session (this includes three exams, top ten quizzes, project, MyStatLab and Attendance/Participation/Class Work points) is exempt from the final exam and will receive a final grade of an A.\*\*\*

**COMMUNICATION:** Verbal communication with the instructor regarding missed classes, quiz make-ups, special accommodations, etc. **must** be followed up with an email (<a href="mailto:kmolkenthin@trcc.commnet.edu">kmolkenthin@trcc.commnet.edu</a>) as soon as possible. This is essential!

RETENTION OF PAPERS: Students are expected to retain all graded work until final grades are received.

ACADEMIC DISHONESTY: Academic integrity is essential in all aspects of college coursework and learning. I have zero tolerance for academic dishonesty. It is expected that YOU complete all your assigned homework, exams and project. Communication or collaboration of ANY sort is ABSOLUTEY PROHIBITED during any quiz or exam. Academic Misconduct is punishable in a number of ways. The minimum penalty is a zero on the assignment where the cheating took place. If a 0 is received on a quiz due to academic dishonesty, that quiz will not be dropped and will count in your final grade. Other penalties include a grade of an F in the course and/or possible censure on your permanent record. All cases of academic dishonesty will be referred to the Dean of Students. Do not let yourself come under the suspicion of academic dishonesty.

**COURSE OBJECTIVES**: The objective of this course is to provide you with a basic understanding of statistical concepts. You will learn how to organize and analyze data, design samples, compute and analyze correlation and regression lines, compute and analyze confidence intervals and perform hypothesis tests. Emphasis is placed on the **analysis**, not just the computations.

DIGICATION: As a student you will maintain an online learning portfolio using a college-designed template in Digication. Through this electronic tool you will have the opportunity to monitor your own growth in college-wide learning. It may even help you determine a major that is best suited to you. You will be able to keep and maintain your learning portfolio after graduation. A Three Rivers General Education Assessment Team will select and review random works to improve the college experience for all. If your work is selected and reviewed for assessment purposes, it will remain anonymous and private. Digication provides a "place" where you will connect your learning from the classroom, college, and life in general. Sometimes when you review all of the work you have done and think about it, you end up learning something different and perhaps unexpected! You are required to upload your final statistics project in your TRCC Digication template. You may post your own choices, as well.

# **COURSE OUTCOMES:**

- 1. Construct and interpret histograms, stem leaf plots, and frequency tables for sets of data.
- 2. Find mean, median, mode, range, standard deviation, deciles, and quartiles.
- 3. Calculate linear correlation coefficient; fine equation of regression line and use equation to predict values.
- 4. Apply the basic rules of addition, multiplication, and counting. Find conditional probability.
- 5. Construct contingency tables and use to find probabilities.
- 6. Determine if data satisfies a probability distribution.
- 7. Know when to use the binomial distribution, standard normal distribution, or a normal distribution as an approximation to a binomial distribution.
- 8. Know when to apply the Central Limit Theorem.
- 9. Determine confidence intervals for means and proportions and find sample sizes necessary for statistical analysis.
- 10. Perform appropriate hypothesis tests.

- ACCOMMODATIONS: Students with learning disabilities should contact the Learning Specialist, Matt Liscum, at 860-215-9265 or via email at <a href="mailto:mliscum@trcc.commnet.edu">mliscum@trcc.commnet.edu</a> as soon as possible to ensure timely accommodations. Students with physical disabilities should contact Elizabeth Willcox at 860-215-9289 or via email at <a href="mailto:ewillcox@trcc.commnet.edu">ewillcox@trcc.commnet.edu</a> to facilitate accommodations. All testing accommodations MUST be discussed with the instructor in a timely manner, that is, at least one to two class meetings prior to any scheduled test for which accommodations are needed.
- CELL PHONE POLICY: All cell phones must be turned OFF or MUTED before entering the classroom and properly placed in a bag or pocket (not left on a desk). Any cell phone use is rude and inappropriate, and will not be tolerated. Students found using cell phones in any way in class will lose their attendance points for that class period. Cell phones may NOT be used for calculators in class. All cell phones must be completely out of sight for all quizzes. Any visible cell phone during a quiz will result in a 0 for that quiz. If a 0 is received on a quiz due to a cell phone issue, that quiz will not be dropped and will count in your final grade.
- **CLASSROOM ETIQUETTE**: Good manners and classroom etiquette should be common sense for most students. Occasionally there are students who seem unaware or oblivious to proper classroom etiquette. What is etiquette? It's a code of conduct, a method for dealing with how people interact with each other based on respect and accepted norms of behavior.

#### 1. Arrive to Class on Time.

Regularly arriving late to class signals a level of disrespect -- whether you mean to send that signal or not. If you have problems getting to class on time, find a way to solve them. And on those rare days when you do arrive late, remember to enter the room quietly.

# 2. Turn Off Your Cell Phone.

Unless you are expecting an important call or text (for which you will notify the instructor ahead of time), the proper thing to do is turn your cell phone completely off, or at least the volume off, as soon as you enter class and properly place it completely inside a pocket or bag.

# 3. Do Not Bring Food or Drink to Class

Do not eat or drink in class, unless you are willing and able to clean up after yourself. In many classrooms food is not allowed, so be sure to check for signage.

#### 4. Avoid Side Conversations.

It is rude for students have a "private" conversation loudly enough that it's distracting to the instructor or other students in the classroom. If you have big news to share with your friends, do so before or after class -- but refrain from doing so during class. Besides being more respectful to the students and professor, you'll actually learn more information by being actively involved in the class rather than in your own side conversation.

# 5. Be Attentive in Class.

If you are going to make the effort to arrive on time and be in class, you should also make the effort to stay actively engaged in class. Avoid reading magazines, textbooks or completing any homework during class time. Flaunting your boredom or disinterest in the class is rude and inappropriate. Finally, please avoid falling asleep in class!

# 6. Stay for the Entire Class.

There may be times when you need to leave class early, but do not make a habit of doing so. If you do need to leave class early, you must alert the professor ahead of time and then discretely leave the classroom so as not to disturb the other students. If you do need to leave early, pick a seat close to the door to make a quick and quiet exit.

# 7. Avoid Signaling, Sending Signs That Class Time is Up.

Occasionally students attempt to signal that class is over by shutting their books loudly, unzipping and zipping their backpacks, and otherwise making noises indicating that class time is complete. I assure you I know how to tell time. It is presumptuous and rude for the student to tell the professor that class is over. If you believe your professor does seem to have a problem with ending class on time, chat with him or her outside of class.

# 8. Contact the Professor When You Have to Miss Class.

When you have to miss class for legitimate reasons or when you miss class because of illness, contact the professor **before** the class meeting and inform him/her of your absence. You then need to obtain copies of lecture notes for *another student*. Do not, however, ask the professor in class to go over or relecture material you missed (for whatever reasons). And when alerting the professor a missed a class, do not ask the awful question, "are we doing (or did we do) anything important in the class I am missing/missed?"

# BOARD OF REGENTS FOR HIGHTER EDUCATION AND CONNECTICUT STATE COLLEGES AND UNIVERSITIES POLICY REGARDING SEXUAL MISCONDUCT REPORTING, SUPPORT SERVICES AND PROCESSES POLICY

Statement of Policy for Public Act No. 14-11: An Act Concerning Sexual Assault, Stalking and Intimate Partner Violence on Campus:

"The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking. It is the intent of the BOR and each of its colleges or universities to provide safety, privacy and support to victims of sexual misconduct and intimate partner violence."

# UNITED STATES DEPARTMENT OF EDUCATION AND OFFICE OF CIVIL RIGHTS TITLE IX STATEMENT OF POLICY:

"Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.

Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students (as well as other persons) at recipient institutions are protected by Title IX – regardless of their sex, sexual orientation, gender identity, part-or full-time status, disability, race, or national origin-in all aspects of a recipient's educational programs and activities."

If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College Campus, or fears for their safety from a threat while on campus, please contact Edward A. Derr, the Diversity Officer and Title IX Coordinator:

**ACCEPTANCE POLICY**: After reading this syllabus, choosing to stay registered for this course exemplifies your acceptance of the syllabus and all policies and consequences outlined in the syllabus. If you do not agree with any of the terms in the syllabus, you are free to withdraw.

\*\*The key to success in this course is to attend every class and do all the homework when it is assigned. **Ask questions when you have them**, either in class or in my office. \*\*Lack of planning on your part does *not* constitute and emergency on my part. You will find it much easier to learn the new topics if you consistently keep up with the course material and homework problems!\*\*

\*\*\*The instructor has the right to change/modify this syllabus at any time with proper notification to the class\*\*\*

Week of:	Chapter(s):	Topics Covered:
8/29	1.1 – 1.2	Statistics & Critical Thinking, Types of Data ◆ Quiz #1 – Thursday 8/31
9/5	1.3, 2.1 – 2.2	Collecting Sample Data, Frequency Distributions, Histograms ◆ Quiz #2 – Thursday 9/7
9/12	2.3 – 2.4	Graphs That Enlighten and Graphs that Deceive, Scatterplots, Correlation and Regression ◆ Quiz #3 – Thursday 9/14
9/19	3.1 - 3.3	Measures of Center, Measures of Variation, Measures of Relative Standing and Boxplots ◆ Quiz #4– Thursday 9/21
9/26	10.1 - 10.3	Correlation, Regression, Prediction Intervals and Variation ◆ Quiz #5 – Thursday 9/28 ◆ Exam #1 Opens Thursday 9/28 (Ch 1, 2, 3), 12:15 pm
10/3	4.1 - 4.3	Basic Concepts of Probability, Addition Rule and Multiplication Rule, Complements, Conditional Probability and Bayes' Theorem  ◆ Exam #1 due Tuesday 10/3, 11:59 pm ◆ Quiz #6 – Thursday 10/5
10/10	5.1 – 5.2	Probability Distributions, Binomial Probability Distribution ◆ Quiz #7 – Thursday 10/12
10/17	6.1	NO CLASS ON TUESDAY 10/17 – Reading Day! The Standard Normal Distribution ◆ Quiz #8 – Thursday 10/19
10/24	6.2 – 6.4	Real Applications of the Normal Distribution, Sampling Distributions, The Central Limit Theorem  ◆ Quiz #9 – Thursday 10/26
10/31	7.1	Estimating a Population Proportion  ◆ Quiz #10 – Thursday 11/2  ◆ Exam #2 Opens Thursday 11/2 (Ch 10, 4, 5, 6), 12:15 pm
11/7	7.2, 8.1	Estimating a Population Mean, Basics of Hypothesis Testing ◆ Exam #2 due Tuesday 11/7, 11:59 pm ◆ Quiz #11 – Thursday 11/9
11/14	8.2 – 8.3	Testing a Claim about a Proportion, Testing a Claim about a Mean ◆ Quiz #12 – Thursday 11/16
11/21	9.2	Two Means: Independent Samples  ◆ Quiz #13 – Tuesday 11/21  NO CLASS ON THURSDAY 11/23 - Happy Thanksgiving!
11/28	9.3, 9.1	Two Dependent Samples (Matched Pairs), Two Proportions ◆ Quiz #14 – Thursday 11/30 ◆ Exam #3 Opens Thursday, 11/30 (Ch 7, 8, 9.2), 12:15 pm
12/5		Project Work  ◆ Exam #3 due Tuesday 12/5, 11:59 pm  ◆ Quiz #15 – Thursday 12/7  ◆ Project Due Thursday 12/7 – 3:30 pm, for potential "A" students
12/12		Project Work  ◆ Final Exam Opens Tuesday 12/12, 12:15 pm  ◆ ALL projects due by Thursday 12/14, 3:30 pm  Late projects NOT accepted – NO EXCEPTIONS!

♦ Final Exam Due Monday 12/18, 11:59 pm