INTRODUCTION TO STATISTICS

MATH 120, WINTER 2018- BLDG. 21, ROOM 156 (4 UNITS)
SECTION #63630 – MTWTH 1:00 PM – 3:50 PM

INSTRUCTOR

Name	STEPHEN TONER
Office	Bldg. 31 (Science), office 51 (north side, second from end)
Phone	760.245.4271 ext. 2770
Email	Stephen.Toner@vvc.edu (see email policy on last page)
Websites	www.stevetoner.com, www.MathVideos.Net
Office Hours	By appointment only during winter term

COURSE DESCRIPTION

The use of probability techniques, hypothesis testing, and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; inference; correlation and regression; ANOVA, chi-square and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social science, psychology, life science, health science, and education.

PREREQUISITES

Math 90, Math 90-S or Math 63 with a grade of "C" or better, or by eligibility by placement on the VVC assessment exam. If you have not met this prerequisite and somehow passed into this class, you will likely be administratively dropped within the first week of class.

TEXTBOOK / MATERIALS

This term, the text is optional. Your course will be modeled after the Navidi-Monk Elementary Statistics text (2nd edition) for sale at the VVC Rams bookstore if you choose to have additional explanations. Otherwise, your lecture notes which you will create from the video lectures will serve as your text.

Homework will be assigned in Blackboard and due each day or so in class. We will also use Fathom software; you may choose to do work in the labs on campus or purchase your own copy for $5.25 from www.fathom.concord.org.

I will often use the free app **Socrative** (student version, available for free from iTunes or Google Play) to take attendance, for a class activity, or to get your feedback. Please have this app downloaded on your wireless device by the second class meeting.

CALCULATORS

A graphing calculator will be **required** for this class. It is preferred that you have a **TI-84 series** calculator, (as that will be the calculator I will be teaching from) but the TI-89 is also an option. The TI-83 model is missing some of the features which we will be using in the course; if you choose the TI-83 or some other graphing calculator, you will be responsible for learning accommodations for the missing features.

I PROMISE you that I will teach you how to use this calculator. It is a key component of this course, so that we can focus on the "how" and "why" of the statistics we learn. Hundreds of past students can attest to the necessity of a graphing calculator in this course.

OUR FLIPPED CLASS FORMAT

This class will be different from any of your other math classes because you will be taking your lecture notes and doing your homework at home BEFORE you come to class. In class, we will expand on what you have already learned. The goal is to provide an active-learning environment in the classroom rather than a static "listen to the teacher talk" environment. We will do this through review, discussion, classroom exercises and activities.

HOMEWORK

PRACTICE is a vital component in learning mathematics. You will be given a variety of assignments to further your statistical understanding, some due that very day in class, others due the next day.

NO LATE ASSIGNMENTS WILL BE ACCEPTED!

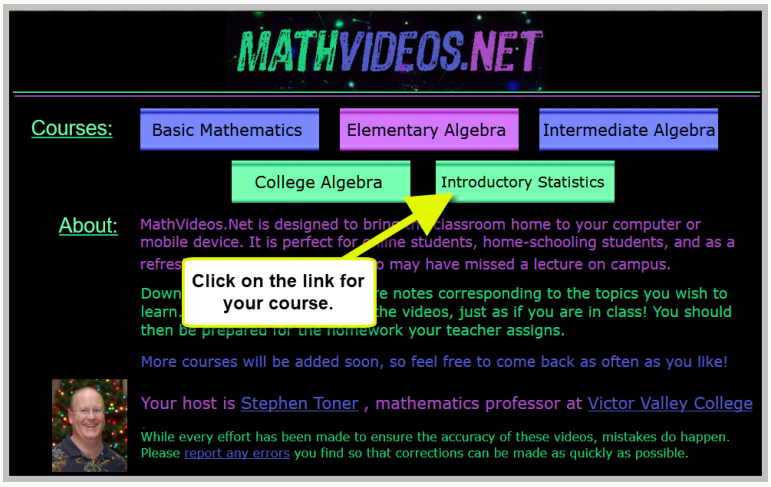
In this technical age, there is **no reason** for late work. All work must be submitted by its deadline to receive credit, **even if you are absent or out of town**. Work that is not completed automatically in Connect Math or collected in class should be submitted as a **single pdf file**. I will **NOT** accept multiple files or zip folders.

If you don't have a scanner at home or access to one, there is a FREE app available on Google Play and iTunes called **CamScanner**. It is a free app, and if you register using your VVC email address ending in .edu, you will be automatically upgraded to the full version which allows you to create files without any watermarks.

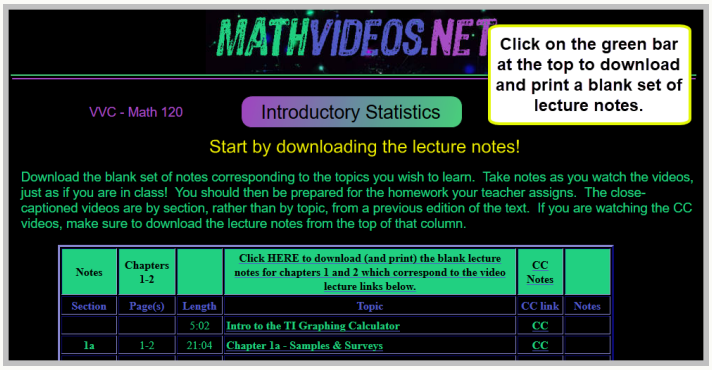
CamScanner allows you to take a picture of each page of your document, crop them and adjust the clarity, and then save them as a single pdf file or email the final file to yourself. You can then email it to me using the email conventions found on page 5 of this syllabus.

LECTURE NOTES AND VIDEOS

First, you will want to go to www.mathvideos.net, my video website, and click on the Introductory Statistics button. Above each pair of chapters, there is a link to "download blank lecture notes". Please download and print these out. For each lecture in the table, there is a video lecture I have created to teach you the material. **Watch the videos and take lecture notes just as if you were in class. *This is an essential part of the class.***

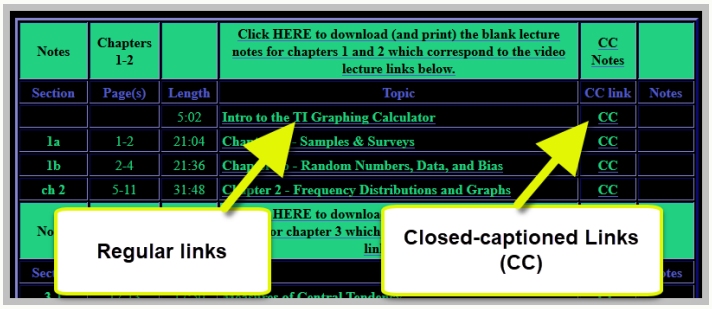


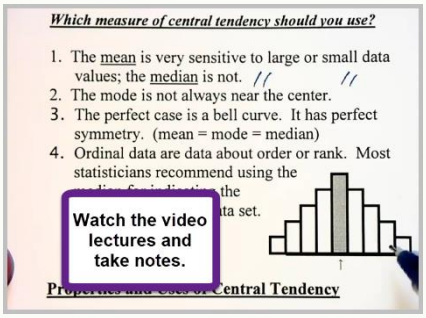
Enter your class at www.MathVideos.Net.



Download a blank set of lecture notes for the current chapters.

Click on the title of each video to watch each video normally. Click on the closed-caption links to watch them closed-captioned (might not work with Internet Explorer).





Watch the videos and take notes, just as in class, except that you now can hit pause and rewind!

QUIZZES

There will be quizzes in class on many days we meet. As an incentive to watch the videos and take the lecture notes before class meets, you will be allowed to use your lecture notes on each of these quizzes!

MIDTERM AND FINAL EXAM

We will a midterm and a final exam in this course, each worth 15% of your total grade. You may use your graphing calculator for these exams, as well as a single-sided 3"x5" notecard as a cheat sheet, with hand-written notes on one side only. This may NOT be a copy-machine miniaturized copy. This note card will be submitted along with your midterm and final exam.

CLASS PROJECT AND PRESENTATION

You will be complete a class project, write a report on it, and present what you learned to your class at the end of the term (approx. 3-4 min presentation).

STUDENT ACCESS

Students with special needs are encouraged to meet with instructors to discuss the opportunity for academic accommodation and be referred to disabled student program and services per Administrative Procedure (AP 3440).

If you have a learning disability or physical need that requires special accommodation, please advise me prior to 01-08-18 (the start of the second week of class).

MATH SUCCESS CENTER

You are strongly encouraged to get tutoring or go to the Math Success Center, study in groups, and see me for help outside of class. All of these are free! Students that get help outside of class are typically much more successful than those that do not.

The Winter 2018 Math Success Center hours are:

Monday-Thursday 9:00 AM – 5:30 PM

The Math Lab is located in building 21 (the ATC), room 146.

SCHOLASTIC DISHONESTY

While students may work together on the researching of any assignment, it is expected that each of their writing assignments reflect substantial individual effort. Any student who commits plagiarism or is found to have cheated on a scheduled exam is subject to a zero score for that specific exam which may result in a term grade of "F" for this course. Students should be aware that cases of cheating and/or plagiarism will be forwarded to the appropriate college administrator promptly. The college administration has a range of sanctions that may be imposed including, but not limited to, academic suspension or expulsion from the college.

ATTENDANCE

YOU ARE REQUIRED TO ATTEND CLASS EVERY DAY. AFTER 4 HOURS OF ABSENCE (1.5 CLASSES), YOU MAY BE DROPPED FROM THIS CLASS. IN A SHORT-TERM CLASS, THIS IS ESPECIALLY IMPORTANT.

IT IS YOUR RESPONSIBILITY TO KEEP YOUR ENROLLMENT STATUS CURRENT. YOU RISK AN "F" IF YOU STOP ATTENDING WITHOUT OFFICIALLY WITHDRAWING. DO NOT BRING FRIENDS OR CHILDREN TO CLASS. PLEASE PUT AWAY ALL MP3 PLAYERS AND TURN ANY CELL PHONES TO SILENT MODE DURING CLASS TIME. NO CELL PHONES WILL BE ALLOWED ON YOUR DESK DURING EXAMS. WE ARE HERE TO LEARN; PLEASE REFRAIN FROM TEXTING DURING CLASS.

Class attendance is not a measure of performance or proficiency. Whether a student is just physically present in the class is not a valid basis for grading. Reference Title 5 Section 55002 of the California Code of Regulations: (A) Grading Policy. The course provides for measurement of student performance in terms of stated course objectives and culminates in a formal, permanently recorded grade based upon uniform standards in accordance with section 55758 of this Division. The grade is based on demonstrated proficiency in the subject matter and the ability to demonstrate that proficiency, at least in part, by means of written expression that may include essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students.

IMPORTANT NOTES ABOUT TECHNOLOGY

This is course requires reliable computer access. Please ensure your computer is in good repair at the start of the semester. You will need to be able to watch my lecture videos (in mp4 format) and open pdf files on your computer using Adobe Acrobat. While documented outages may occur, it is the student's responsibility to meet all deadlines in this course. If your internet service at home is unreliable, do not wait until the last day to start assignments. There are plenty of computers that you are able to use while on campus.

VVC CALENDAR

Jan 2	First Day of classes
Jan 7	Last day to drop without receiving a "W" grade
Jan 15	Campus closed – Martin Luther King, Jr. Holiday
Jan 18	Last day to drop and receive a "W" grade
Feb 8	Last day of class

OUR CLASS SCHEDULE

		Video Preparation Before class	Class Topic / Activity
T	01.02	xxx	Introduction
W	01.03	Ch 1 - 42 min (2 videos – 1a and 1b)	Chapter 1 topics
Th	01.04	Ch 2 - 32 min (1 video)	Histograms, etc. - Fathom
Ch. 3 is a bit confusing; watch carefully! You may skim the part of video 3-2b dealing with Chebyshev's Theorem.			
M	01.08	Ch 3 - 37 min (2 videos – 3-1 and 3-2a)	Measures of Center and Spread
T	01.09	Ch 3 - 35 min (2 videos – 3-2b and 3-3)	Relative Position
W	01.10	Ch 5 – 30 min (1 video - 5-1,2)	Chapter 5 – Day 1
Th	01.11	Ch 5 – 30 min (1 video - 5-3… **SKIP 5.4**)	Chapter 5 – Day 2
M	01.15	xxx	Campus closed – Martin Luther King, Jr. Holiday
T	01.16	Ch 6 - 45 min (2 videos – 6-1 and 6-2,3)	Probability Distributions Day 1
W	01.17	xxx	Probability Distributions Day 2
Th	01.18	Ch 7 - 75 min (2 videos)	Normal Curves and Central Limit Theorem
The HEAVIEST week conceptually is this week. Get a head start on all of this week's videos!			
M	01.22	Ch 8 - 75 min (2 videos)	Sample Size & Confidence Intervals
T	01.23	Ch 9 - 75 min (3 videos)	Hypothesis Testing – Day 1
W	01.24	xxx	Hypothesis Testing – Day 2
Th	01.25	Ch 10 & 11 - 75 min (3 videos)	Two Population Hypothesis Tests Day 1
M	01.29	xxx	**Midterm -Chapters 1-3, 5-7**
T	01.30	xxx	Two Population Hypothesis Tests Day 2
W	02.31	Ch 4 & 13 - 55 min (2 videos)	Linear Regression Day 1
Th	02.01	xxx	Linear Regression Day 2
M	02.05	Ch12 & 14 - 45 min (3 videos)	Chi-Square & ANOVA
T	02.06	xxx	Modeling – Evidence of Discrimination
W	02.07	xxx	**Project** Presentations & Final Review
Th	02.08	xxx	**Final Exam -Chapters 4, 8-14**

GRADING

It is your responsibility to be aware of your grade. Your final grade will be determined as follows:

		Grade Scale
Homework**	20% of your grade	A: 88-100%
Classroom Activities**	20% of your grade	B: 78-87.99%
On-campus Quizzes**	15% of your grade	C: 70-77.99%
Class Project	15% of your grade	D: 65-69.99%
Midterm Exam, Final Exam	30% of your grade	F: 0-64.99%

** The lowest score in each of these first three categories will be dropped prior to calculating the term grade.

Prof. Toner's Email Policy

I do my best to answer all emails as quickly as I can, but sometimes it can be difficult. You would not believe how many unidentified emails I receive on a regular basis... as a result, I have established this policy to help me provide you with the quickest, most reliable response.

Send all emails to Stephen.Toner@vvc.edu.

Please read carefully the set of rules applicable to all emails you may send me.

The subject line (title) of the email must include the following information:

1. Your first and last name (if you are not using your VVC email account)
2. Your class name, meeting days and times
3. The reason for the email

Good Examples:

- Jessica Jones, Math 90 online, about my chapter 3 test
- Jessica Jones, Math 12 TTh at 8 am, family emergency

Do not email asking questions that can be answered by reading the syllabus. For example, please do NOT email me questions such as "Can I take the test at a later date?" or "When is the final exam?"

Write emails using proper grammar, punctuation, and capitalization. In other words, do not text me.

Emails that don't follow these guidelines may not be answered quickly.

Prof. Toner's Schedule

I make every effort to respond to emails as quickly as I can, however this winter I am teaching other classes too. I will do my best to check my email regularly, even on the weekends.

STUDENT LEARNING OUTCOMES

Upon completion of the course the student can:

1. Calculate measures of central tendency and variation for a given data set.
2. Calculate probabilities using normal and t-distributions.
3. Interpret the output of a technology-based statistical analysis.
4. Formulate hypothesis tests involving samples from one and two populations.