

# INTRODUCTION TO STATISTICS

MATH 120, SPRING 2017- BLDG. 30, ROOM 7 (4 UNITS)

SECTION #59828 - TUES 8:00 - 9:50 AM - HYBRID

## 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 | Mon, Tues, Wed & Thurs: 7:15 AM - 7:50 AM<br>Tuesdays & Thursdays: 10:00 - 11:00 AM |

## COURSE

### DESCRIPTION

The use of probability techniques, hypothesis testing, and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square tests 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 63, or Math 66 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 semester, we are going without a text. Instead, 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 week in class.

### CALCULATORS

A graphing calculator will be required for this class. It is preferred that you have a **TI-84 series** calculator, (preferably a TI-84 Plus, as that will be the calculator I will be teaching from) but the TI-89 is also an option. The TI-83 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 accommodate 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.

## THE HYBRID / “FLIPPED” CLASS FORMAT

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“Hybrid” means that your class is partially on-campus and partially online. 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 and practiced online. 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

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PRACTICE is a vital component in learning mathematics. You will find each week’s homework in Blackboard. It will be due in class each week.

### **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 the last page of this syllabus.

## QUIZZES

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There will be quizzes in class on most 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

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We will have a midterm and a final exam in this course, each worth 15% of your total grade. While you may use your graphing calculator for these exams, no notes or cheat sheets will be allowed.

## DISCUSSION BOARD

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You are expected to participate in each of the weekly discussion boards which will be located at the Blackboard site for the class. Each week you should post in the discussion board forum as directed. Each of your posts should **contribute** to the conversation and not just be a short “LOL” type of post. Most of the boards (other than the social forum) will be set up so that you cannot view your classmates’ posts until you have posted yourself. Please **read the prompts carefully**; some weeks you will need to respond to one of your classmates’ posts in addition to your own post.

## CLASS PROJECT AND PRESENTATION

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You will 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

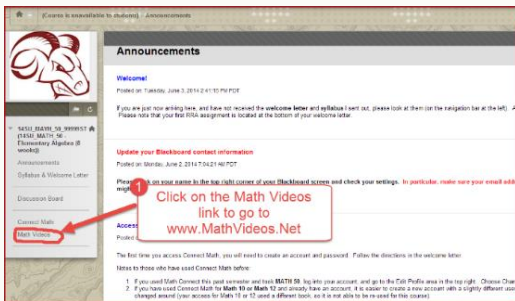
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*Students with special needs are encouraged to meet with instructors to discuss the opportunity for academic accommodation and be referred to disabled student program and services per Administrative Procedure (AP 3440).*

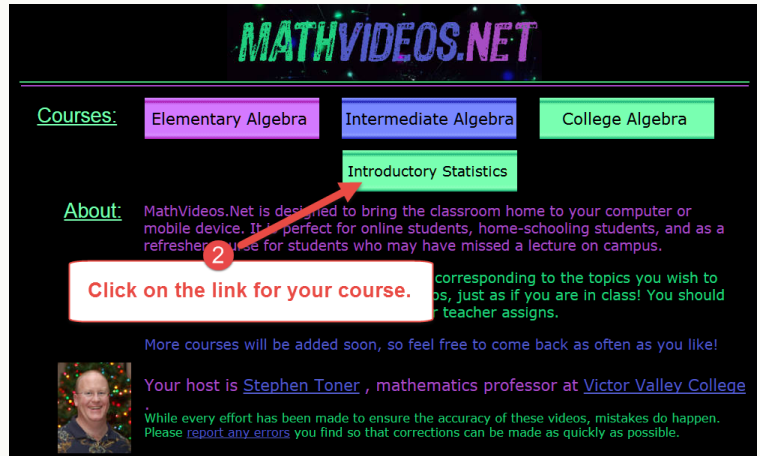
*If you have a learning disability or physical need that requires special accommodation, please advise me prior to 02-20-17 (the start of the second week of class).*

## LECTURE NOTES AND VIDEOS

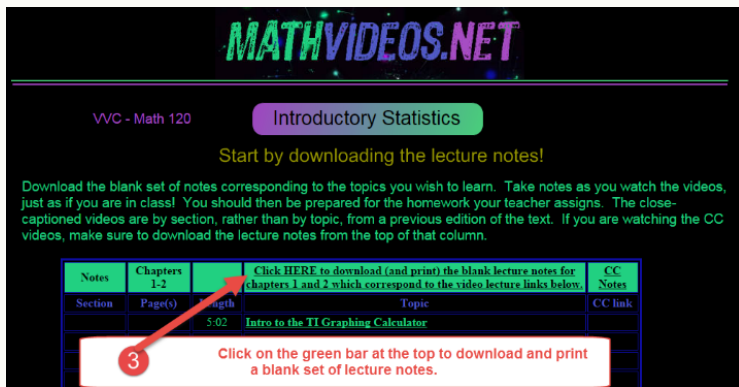
First, you will want to go to [www.mathvideos.net](http://www.mathvideos.net), my video website, and click on the Introductory Statistics button. Above each pair of chapters, there is a link to "download blank lecture notes". Please download and print these out. For each lecture in the table, there is 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.**



Within Blackboard, click on the Math Videos link in the Navigation panel.



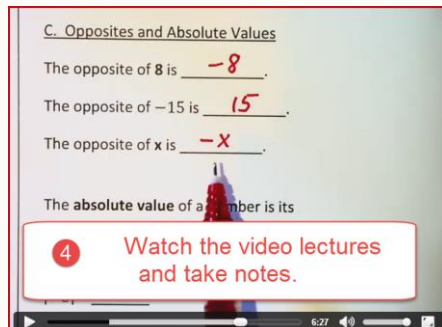
Enter your class at [www.MathVideos.Net](http://www.MathVideos.Net).



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).

| Notes   | Chapters 1-2 | Click HERE to download (and print) the Chapters 1-2 notes which correspond to the video lecture links below. | CC link |
|---------|--------------|--|---------|
| Section | Length       | Topic  | CC link |
| 1.1     | 8:18         | Sets of Real Numbers   | CC      |
| 1.2     | 22:09        | Operations With Real Numbers   | CC      |
| 1.3-1.4 | 11:59        | Adding and Subtracting Signed Numbers  | CC      |
| 1.5     | 16:30        | Multiplying and Dividing Signed Numbers  | CC      |
| 2.1     | 15:08        | Real Numbers   | CC      |
| 2.2     | 15:08        | Step Linear Equations  | CC      |
| 2.3     | 15:08        | Step Linear Equations  | CC      |
| 2.4     | 19:08        | Word Problems Involving  | CC      |
| 2.5     | 12:36        | Percent Sentence Problems  | CC      |
| 2.6     | 16:47        | Solving Literal Equations; word Problems Involving Linear Equations and Geometry                             | CC      |
| 2.7     | 25:40        | Mixture Problems; Motion Problems  | CC      |



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

## ACADEMIC SUPPORT

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.

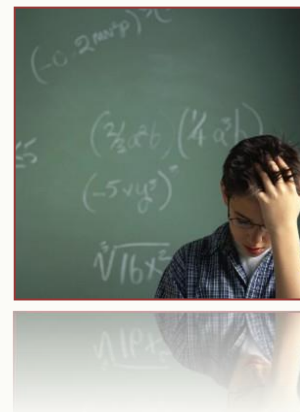
Regular Math Success Center hours are (Spring 2017):

Monday - Thursday: 9:00 AM - 8:00 PM  
Fridays: 9:00 AM - 5:30 PM

The Math Success Center is located in building 21, room 146.

I will also be offering support workshops on Tuesdays from 4:20-5:20 pm in 21-145.

My office hours are listed at the start of this syllabus. Appointments are also available if you are unable to meet me at those times. Online office hours are also available...



## 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 (2 CLASSES), YOU MAY BE DROPPED FROM THIS CLASS. 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 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 on campus.

## VVC CALENDAR



|          |  |
|----------|--|
| Feb 13   | First Day of classes                           |
| Feb 20   | Campus Closed - Presidents' Holiday            |
| Feb 26   | Last day to drop without receiving a "W" grade |
| Apr 01   | Last day to drop and receive a "W" grade       |
| Apr 9-15 | Campus closed - Spring Break                   |
| May 29   | Campus closed - Memorial Day                   |
| Jun 10   | Last day of spring term                        |

## OUR CLASS SCHEDULE

|   | Video preparation | Homework to complete before class meets | In-class activity           |                                     |
|---|-------------------|---|-----------------------------|-------------------------------------|
| T | 2.14              | --                                      | --                          | Introduction                        |
| T | 2.21              | 50 min (3 videos)                       | HW Chapter 1; read articles | Q&A; activity; quiz                 |
| T | 2.28              | 32 min (1 video)                        | HW Chapter 2                | Q&A; activity; quiz                 |
| T | 3.07              | 84 min (4 videos)                       | HW Chapter 3                | Q&A; activity; quiz                 |
| T | 3.14              | 80 min (3 videos)                       | HW Chapter 5                | Q&A; activity; quiz                 |
| T | 3.21              | 80 min (3 videos)                       | HW Chapter 6                | Q&A; activity; quiz                 |
| T | 3.28              | 75 min (2 videos)                       | HW Chapter 7                | Q&A; activity; quiz                 |
| T | 4.04              |   | Review for Midterm          | <b>Midterm -Chapters 1-3, 5-7</b>   |
|   | 4.11              | --                                      | --                          | <b>SPRING BREAK</b>                 |
| T | 4.18              | 75 min (2 videos)                       | HW Chapter 8                | Q&A; activity; quiz                 |
| T | 4.25              | 75 min (3 videos)                       | HW Chapter 9                | Q&A; activity; quiz                 |
| T | 5.02              | 75 min (3 videos)                       | HW Chapter 10 & 11          | Q&A; activity; quiz                 |
| T | 5.09              | 55 min (2 videos)                       | HW Chapter 4 & 13           | Q&A; activity; quiz                 |
| T | 5.16              | 45 min (3 videos)                       | HW Chapter 12 & 14          | Q&A; activity; quiz                 |
| T | 5.23              | --                                      | Work on project             | additional activities - Final Prep  |
| T | 5.30              | --                                      | Prepare presentation        | Project Presentations to class      |
| T | 6.06              | --                                      | Review for Final            | <b>Final Exam -Chapters 4, 8-14</b> |

\*\*\* Discussion board posts will be due every **Saturday** night in Blackboard.

## GRADING

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

|                          |                   |
|--------------------------|-------------------|
| Homework*                | 20% of your grade |
| Online Discussion Board* | 12% of your grade |
| Classroom Activities*    | 15% of your grade |
| On-campus Quizzes*       | 8% of your grade  |
| Class Project            | 15% of your grade |
| Midterm Exam, Final Exam | 30% of your grade |

|   |                 |
|---|-----------------|
| A | 90.00% - 100%   |
| B | 80.00% - 89.99% |
| C | 70.00% - 79.99% |
| D | 65.00% - 69.99% |
| F | 0% - 64.99%     |



# EMAIL

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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](mailto:Stephen.Toner@vvc.edu).

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## Prof. Toner's Email Policy

*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
2. Your class name, meeting days and times
3. The reason for the email

### Examples:

- Jessica Jones, Math 90 online, about my chapter 3 test
- Jessica Jones, Math 120 TTh at 8 am, out sick today

**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.

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### Prof. Toner's Schedule

I make every effort to respond to emails as quickly as I can, however some days are rather busy, especially on Tuesdays and Thursdays.

Emails received after 9:30 or so in the evenings may not receive responses until the next day. On weekends, I generally try respond to emails in the morning and evenings, but response time may be a bit slower in the middle of the day.

Additionally, I will do my best to respond while at conference or traveling, but please understand that there may be delays for such.

### **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.