DVC – Math 135 Syllabus

"You can't direct the wind – but you can adjust the sails."

Course:	Math 135, Sec. 1184 – *College Algebra*
Instructor:	Mr. Narin
Term:	Spring 2021, Jan 25th – May 19th
Time:	**Online**: MW 12:05 pm – 1:05 pm
Optional Hours:	**Online**: MW 2 – 3 pm
Class Websites:	*MathWithSteve.com*
	DVC Canvas
Email:	SteveNarin314@gmail.com

DVC Online Math Lab Hours

Monday – Thursday: 10:00am – 2:00pm & 3:00pm – 7:00pm

Friday: 10:00am – 2:00pm

Link: *Math Lab Tutoring*

Required

Text: Our official text is Stewart's *College Algebra*, published by Cengage. It's a free download from www.MathWithSteve.com.

Calculator: A simple scientific calculator will be perfect for this class — just look for the LOG button — TI recommended; it's about $13 and will be allowed on every quiz and test. No graphing calculators (or anything that does algebra) are allowed.

We will also use a graphing program on the web called Desmos. There's nothing to install — it runs right in your browser.

Browser: It is strongly recommended that you use Google Chrome for your web browser. Our class website requires it, and I am pretty sure that the Khan Academy website no longer supports Internet Explorer.

Platforms:

www.MathWithSteve.com [No username or password required]. Here you will find the Syllabus, the Schedule, the Grade Sheet, chapters to be downloaded, Online Practice, and various links.

The synchronous online communications will be through **Zoom**.

Canvas will be used for Chat, a Discussion Board, and for taking some of our quizzes.

Email: As a DVC college student, you are required to check your school or personal email account regularly — that means at least a few times each day. This is imperative, considering that this is an online class. Also, let me know if you'd prefer that I send your emails to an account other than the college account. It would be greatly appreciated if you could include "135" anywhere in your subject line when you email me.

Computer, Printer, and Scanning: You must have

1. a **computer or tablet** using Google Chrome, or an extremely compatible substitute browser. Be sure it runs Desmos and Zoom.

2. a **printer** for printing out chapters from the online text, activities, quizzes, and tests. We will NOT be using "test-monitoring software."

3. a way to **scan** your printouts for submission to me via an email attachment. I see two ways to scan: a flatbed scanner that can scan to the PDF format, or a good program for your smartphone or tablet computer (check out Adobe Scan) that will take clear pictures of a multi-page document and convert it to a single PDF.

Grading Components

We will use a point system for this class. That way, the grade sheet can display your grade at any point in the semester. The points will be allocated in approximately the following way:

Activities:	19%	Roughly 15 activities at 10 pts each
Quizzes:	30%	Roughly 24 quizzes at 10 pts each
Tests:	51%	Exactly 4 tests at 100 pts each

Homework

Homework will be assigned from the Chapters located on the right side of our class website, but also from other online sources.

The problems I assign are designed to inform you as to what skills and concepts you are supposed to be gaining from this class. In other words, you need to do as much homework as you need to — whatever it takes to achieve the degree of success that you desire. This might mean you do just a few of each type of problem until you understand the concept well; it might mean you do most or all of the problems, or even more than all the problems. In short, it's up to you to discover the homework strategy that suits your personal learning style. Because of this policy, homework is *not* counted toward your grade.

Activities

These are miscellaneous weekly assignments that you will hand in for points. I've never included these as a component of my face-to-face math courses — but in a virtual world, I'm confident that these have the potential to be a valuable part of your College Algebra education. They will be assigned toward the end of the week, and will be due by Sunday at midnight.

Quizzes

There will be two quizzes each week, which will be posted Mondays and Thursdays. Sometimes you'll submit the quizzes back to me (either through scanning or a direct email), and sometimes you'll grade them yourselves and then inform me of your grade. Also, we may use Canvas for some of our quizzes, or any other method we think might work well. Any ideas? Let me know. The Monday quiz will be due by Tuesday at midnight, and the Thursday quiz will be due by Friday at midnight. This provides the flexibility you might need to work around your family and employment obligations.

Tests

There will be four major tests. The tests will contain some multiple-choice questions, but mostly, "show your work" questions (with partial credit possible). Test #1 will be posted on a Thursday and due Friday at midnight. The rest will be posted on a Wednesday and due Thursday at midnight. And like some of our quizzes, you will print the pages of the test, fill in your answers, scan the pages to a <u>single</u>, clearly legible PDF, and attach that file to an email.

Letter Grades

A – 90% and up

B – 80% to 89%

C – 70% to 79%

D – 60% to 69%

F – below 60%

> *Live* as if you were to die tomorrow.
>
> *Learn* as if you were to live forever.
>
> **Mahatma Gandhi**

Academic Dishonesty

Click the following link: *Academic Integrity Policy*

That document should answer all your questions regarding this issue.

Please note that — if caught cheating — the consequences I impose will be as harsh as the DVC policy will allow.

Student Learning Outcomes and Course Content

From the DVC Catalog:

This course presents a study of functions and their graphs, including polynomial, rational, radical, exponential, absolute value, and logarithmic functions; systems of equations; theory of polynomial equations; analytic geometry. Other topics include inequalities, nonlinear systems, conic sections. CSU, UC (credit limits may apply to UC - see counselor)

Objectives/Student Learning Outcomes

Students will be able to:

A. Analyze and investigate properties of functions.
B. Synthesize results from the graphs and/or equations of functions.
C. Apply transformations to the graphs of functions.
D. Recognize the relationship between functions and their inverses graphically and algebraically.
E. Solve and apply rational, linear, polynomial, radical, absolute value, exponential, and logarithmic equations and solve linear, nonlinear, and absolute value inequalities.
F. Solve systems of equations and inequalities.
G. Apply techniques for finding zeros of polynomials and roots of equations.
H. Apply functions and other algebraic techniques to model real world science, technology, engineering and mathematics (STEM) applications.
I. Analyze conics algebraically and graphically.
J. Use formulas to find sums of finite and infinite series.

Content

A. Functions including linear, polynomial, rational, radical, exponential, absolute value, logarithmic: definitions, evaluation, domain and range
B. Inverses of functions
C. Algebra of functions
D. Graphs of functions including asymptotic behavior, intercepts, vertices
E. Transformations of quadratic, absolute value, radical, rational, logarithmic, exponential functions
F. Equations including rational, linear, polynomial, radical, exponential, absolute value, logarithmic
G. Linear, nonlinear, and absolute value inequalities
H. Systems of equations and inequalities I. Characterization of the zeros of polynomials
I. Properties and applications of complex numbers
J. Properties of conic sections
K. Sequences and series

Learning Outcomes and Objectives

Course Objectives

CSLOs

Analyze and investigate properties of functions.

Synthesize results from the graphs and/or equations of functions.

Apply transformations to the graphs of functions.

Recognize the relationship between functions and their inverses graphically and algebraically.

Solve and apply rational, linear, polynomial, radical, absolute value, exponential, and logarithmic equations and solve linear, nonlinear, and absolute value inequalities.
Solve linear and nonlinear systems of equations and inequalities.

Apply techniques for finding zeros of polynomials and roots of equations.

Apply functions and other algebraic techniques to model real world applications.

Course Outline

Course Content

1. Functions including linear, polynomial, rational, radical, exponential, absolute value, logarithmic: definitions, evaluation, domain and range
2. Inverses of functions
3. Algebra of functions
4. Graphs of functions including asymptotic behavior, intercepts, vertices
5. Transformations of quadratic, absolute value, radical, rational, logarithmic, exponential functions
6. Equations including rational, linear, polynomial, radical, exponential, absolute value, logarithmic
7. Linear, nonlinear, and absolute value inequalities
8. Systems of equations and inequalities
9. Characterization of the zeros of polynomials
10. Properties and applications of complex numbers

"Wisdom begins in wonder."

Socrates