

Syllabus-Fall 2019

Title of Course-Section:	MATH 1240-551 Pre-Calculus
Name of Department:	Mathematic, Engineering, & Computer Science
Instructor:	Andisheh Dadashi, Assistant Prof. of Mathematics
E-Mail:	andisheh@unm.edu
Class Meeting Days/Times:	Lecture: Valencia Highschool
Credit Hours and Contact Hours:	3 credit hours
Class Location:	Valencia Highschool
Office Location:	VAAS-105
Office Hours:	M: 10:20 am to 11:20 am (at the LRC) W: 10:20 am to 11:20 am (my office) MW: 11:30 am to 12:30 pm (my office) TR: 3:15 pm to 4:15 pm (my office) or by appointment

What is Pre-Calculus

This course extends students' knowledge of polynomial, rational, exponential and logarithmic functions to new contexts, including rates of change, limits, systems of equations, conic sections, and sequences and series.

Pre-requisites/Co-requisites

Successful completion of Math 121 or minimum ACCUPLACER score of 69-99 (College-Level Math), NEXT GEN score of 249-283 (Advanced A & F), or math ACT score ≥ 25 , or math SAT score ≥ 570 .

Learning Objectives and Outcomes**1. Functions**

- Reinforce recognizing a function from its graph and from its algebraic expression.
- Reinforce identification of a one-to-one function graphically and from its algebraic expression.
- Reinforce identification of inverse functions graphically and algebraically.
- Reinforce combining functions arithmetically and compositionally.
- Be able to calculate the average rate of change of a function using the difference quotient and depict it graphically.
- Be able to find a limiting value of a function and be able to identify and use the notation that describes this.

2. Graphing

- Reinforce using key characteristics of functions to graph them.
- Be able to graph conic sections from their key characteristics such as foci, eccentricity and asymptotes.
- Be able to identify all functions mentioned from their graphs, describing their key aspects.

3. Solving

- Exponential/Logarithmic equations using the rules of exponents and logarithms
- Systems of linear equations by elimination.

- c. Non-linear systems algebraically and graphically.
4. Applications
- a. Modeling with functions with an emphasis on exponential and logarithmic functions, growth and decay.
5. Sequences and series
- a. Understand the concept and notation of a sequence.
- b. Understand the concept and notation of a series.
- c. Be able to find limits of basic sequences.
- d. Be able to find sums of basic series.

**** Email ****

In subject of your email to me, please mention your course name, number, and section number. For example, the subject of your email to me should be:

MATH 1240-551

Besides, you should only contact me with your UNM e-mail.

I **CANNOT** respond to your email if you don't follow this instruction.

Check your UNM email frequently. You are responsible for missing any announcement I sent via email.

Attendance/Absence

- **Attendance:** You are expected to be on time to each class and stay the entire class, have the necessary course materials on hand, and participate in the lecture and/or group activities to receive full credit for attendance each day. Please, put your initial in the sign sheet provided to you!
- **Absences:** I do not require you to give me any sort of documentation for missing up to 3 class days. Even if you miss class, you are still expected to complete the assignments posted in MML. You will only be excused for any in-class activity we did.

Here are the reasons I may **drop** you from the class:

- If you miss the first week of the semester.
- If you have 3 or more absences during the first three weeks of the semester.
- If you are not completing assignments by the end of the first week you are in the class.
- If you added late, your counted absences start the day you registered for the class.

Sign up to Slack

Slack is where work flows. It's where the people you need, the information you share, and the tools you use come together to get things done. Slack can replace email, text **messaging**, and instant **messaging** for your team, and keep all those **communication** styles together in one app. With both desktop and mobile versions, Slack can help your team collaborate and coordinate their work no matter where they are — in the field office, at home, or out knocking doors.

You can join our MATH1220 Slack group by following the link below to sign up using your **UNM-Email**:

https://join.slack.com/t/math1240-v-hs/shared_invite/enQtNzIwMTU0NTkzMDExLTlZzZDFhMmJhZTNhYzhmNmQ0YmQzODA0ZmJkNzIzMzZmM2IzNzU5MDk2ZTlhNTc4Yjg1MWU5OTRjMmU0NWExNDY

The display name must be your first name – Last name. Also, please write down and send me your UNM-ID in a private message (Click on my name and you can send me a private message).

Evaluation/Grading Methods

Your final grade in this class is based on the following components:

<u>Homework</u>	10 %
First in-class exam	10 %
Second in-class exam	10 %
Cumulative Final in-class Exam	30 %

Note: You must score at least a **70% on the final exam** and have a course average of 70% or better (700 or more total points) to earn a passing grade in the course.

Overall Grades: pluses and minuses may or may not be added to letter grades at the instructor's discretion. Grades of A+ are extremely rare and will only be awarded for exceptional work.

Grade	From	To		Final Exam Score
A	90	Above	&	70% or better
B	80%	89%	&	70% or better
C	70%	79%	&	70% or better
CR	70%	Better	&	70% or better
D	60%	69%	&	Any
F	Less	59%	&	Any
NC	69%	Less	&	Any

DO NOT consider any of the grades posted in MyMathLab as representing your actual grade.

Assignments

Homework: Homework is assigned as needed throughout the semester.

After the **due dates**, no assignment is accepted! This method keeps us up to date with our assignments and not letting ourselves get behind. Please, don't ask for an extension because it won't be fair to other students who are always on time.

How to upload your written Assignments

You must upload your written assignments on **Slack** (in the private message and not in the public channel) by or before the due dates. If you are done with your assignments right on the due date and you don't have an access to a scanner you can use your cellphone to upload the assignments to the Slack.

If you consider your uploaded assignment vague or not easy to read you need to upload your assignments again as soon as you have access to the scanner.

In-Class Exams

There will be two exams during the semester that will be written exams given during class. Each is worth 10% of the overall grade. If you are ill or an unexpected event happens, and you cannot make it to the exam, you have one week to make it up.

You can see the dates of In-class exams in the last page of this Pdf. All exams are closed book closed notes. For the in-class exams to get full credit on graded work you must address all mathematical components presented by the problem, showing all steps and calculations. The use of proper notation, well-structured procedures, and legibility will be considered when assigning points.

Missed Exams: If you know you are going to miss an exam you must make prior arrangements with me in order to take a make-up exam in the testing center. If you miss an exam due to an emergency you must provide documentation of the emergency (doctor's note, police report, etc.) to take a make-up exam.

Calculator

A scientific and graphical calculator may be used on all homework and exams. Use of cell phone calculators or calculators on other WIFI-capable devices is not allowed on exams.

Deadlines

<http://registrar.unm.edu/semester-deadline-dates/fall-2019.html>

Support!

If you are struggling in this course, do not be afraid to ask for help!

- Office Hours: See my office hours listed at the beginning of this syllabus. Feel free to come by or log in for online office hours, or make an appointment to get help.
- Form study groups: You may work together with other members of our class on **Slack**.
- Free Tutoring: The Math Center at Valencia campus has free tutoring and open labs. Call 505-925-8907 for more information. CAPS on main campus also provides tutoring for which I can get documentation.
- Student Services: There are various services provided in our Student Services Department. See below about equal access. Also, we have a testing center, advising, and career placement available: [Valencia Student Services](#)

Student Behavior

According to the Code of Conduct as stated in the Policies and Regulations for UNM, student activities that interfere with the rights of others to pursue their education or to conduct their University duties and responsibilities will lead to disciplinary action.

This includes any activities that are disruptive to the class and any acts of academic dishonesty. Students are expected to behave in a courteous and respectful manner toward the instructor and their fellow students. Students may be dropped from a class for inappropriate behavior. For more information:

<https://pathfinder.unm.edu/code-of-conduct.html>

Collegial Behavior:

Since we assume you are all adults, we will expect from you respectful adult behavior. Engaging in disruptive or unruly behavior could result in your being asked to leave, at which time you will be counted absent and a referral will be sent to the Associate Dean of Student Services. Continuing to

behave in this way could result in your being dropped from the course. Disruptive or unruly behavior includes but is not limited to:

- texting or talking on your cell phone or Laptop at any time during class,
- continually talking with your neighbor when we are not working on a group activity,
- working on homework from another class, reading material or watching media on a mobile device not related to this course or at a time that is inappropriate,
- refusing to participate in the class activities.

Academic Dishonesty

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy:

<https://policy.unm.edu/regents-policies/section-4/4-8.html>. The policy states:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty is defined as:

"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Cheating students will be prosecuted according to University guidelines. Students should get acquainted with their rights and responsibilities as explained in the Student Code of Conduct

<http://dos.unm.edu/student-conduct/academic-integrityhonesty.html>

Disabilities Policy: (ARC)

<https://valencia.unm.edu/students/advisement/equal-access-faqs.html>

Contact Equal Access Services at 925-8560 to schedule an appointment.

The Center for Academic Learning

<https://valencia.unm.edu/campus-resources/the-learning-center/index.html>

The Learning Center is open Monday – Friday with evening hours Monday – Thursday

To schedule an appointment or for additional information call (505)-925-8907

UNM Valencia Registrar's Office

<https://valencia.unm.edu/academics/catalog/2018-2019/admission-registration/index.html>

Contact Registration Office by calling 925-8580

UNM Valencia Title IX Representative

Title IX (9) Statement: In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see pg. 15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual

misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see:

<https://policy.unm.edu/university-policies/2000/2740.html>

<https://oeo.unm.edu/title-ix/index.html>

<https://valencia.unm.edu/students/student%20grievance%20procedure.html>

Responsibility

EXPECTATIONS: Students are expected to conduct themselves in a polite, courteous, professional and collegial manner. **Cell phones must be set on silent and be out of sight during class. No food or drink is allowed in the computer labs.**

Time for This Course: Plan to spend a *minimum* of 9 to 12 hours per week for this class. There is no guarantee you will pass if you dedicate this amount of time, you still need to learn the material and use your time wisely, but those who pass generally are the ones who spend the time needed to do the work to learn the material.

You are **responsible** for all material covered in this Syllabus and in class, in assigned readings, and on homework assignments. Not all material on tests will necessarily be covered in class but will be in the assignments. The use of cell phones, headphones, etc. is not permitted in class or exams.

Chapters of Book

Chapter 1: sections 6

Chapter 2: sections 1, 2, 3, 4, 6, 7, 8

Chapter 3: sections 1, 2, 3, 4, 6

Chapter 4: sections 1, 2, 3, 4, 5, 6

Chapter 10: sections 1, 8

Chapter 11: sections 1, 2, 3

Chapter 12: sections 1

Chapter 13: sections 1, 2, 3, 4, 5

MATH 1240 Topics

Sec. 2.1 What is a Function?

Sec. 2.2 Graphs of Functions

Sec. 2.3 Information from Graphs

Sec. 2.4 Average Rate of Change

Sec. 2.6 Transformations of Functions

Page 237 Modeling with Functions

Sec. 2.7 Combining Functions

Sec. 2.8 One-to-One, Inverse Functions

Sec. 1.6 Complex Numbers

EXAM 1

Sec. 3.1 Quadratic Functions/Models

Sec. 3.2 Polynomial Functions/Graphs

Sec. 3.3 Dividing Polynomials

Sec. 3.4 Real Zeros of Polynomials

Sec. 3.6 Rational Functions

Sec. 10.1 Systems of Linear Equations

Sec. 10.8 Systems of Nonlinear Equations

Sec. 4.1 Exponential Functions

Sec. 4.2 Natural Exponential Function

EXAM 2

Sec. 4.3 Logarithmic Functions

Sec. 4.4 Laws of Logarithms

Sec. 4.5 Exponential /Logarithmic Equations

Sec. 4.6 Modeling with Exponential Functions

Sec. 12.1 Sequences

Sec. 13.1 Limits: Numerically/Graphically

Sec. 13.2 Limits: Algebraically

Sec. 13.3 Tangent Lines and Derivatives

Sec. 13.4 Limits at Infinity

Sec. 11.1 Parabolas

Sec. 11.2 Ellipses

Sec. 11.3 Hyperbolas

Sec. 13.5 Area

FINAL EXAM