

Welcome to

# MATH 1430

APPLICATIONS OF CALCULUS I

## INSTRUCTOR:

Precious Andrew  
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Office: AS123

## OFFICE HOURS:

Tuesdays and Thursdays 4:15-5:15pm  
and Tuesdays 1:00-3:00pm in-person at  
Valencia Campus, Room Arts and  
Sciences 123 (A123). I'm also available  
via Zoom during these times, or by  
appointment.

## COURSE DESCRIPTION:

An algebraic and graphical study of  
derivatives and integrals, with an  
emphasis on applications to business,  
social science, economics and the  
sciences. Meets New Mexico General  
Education Curriculum Area II:  
Mathematics and Statistics. (3 Credit  
Hours).

## PREREQUISITES:

C or better in Math 1220, 1240, or 1250  
or an appropriate placement test. Check  
with your advisor to make sure you meet  
the requirements.

Start by **exploring** our course  
at [canvas.unm.edu](https://canvas.unm.edu).

Here you will find course information and  
the link to our textbook: *Calculus with  
Applications*, 12th edition, by Lial, M. L.,  
Greenwell R. N., & Ritchey N. P.  
Pearson Publishing.

In Canvas you can also access your  
online MyMathLab homework.

The **grade you earn** will be based on  
the following assignments and scale:

2 Exams (100 pts. each)	200 points
MyMathLab Onine HW	100 points
Additional Assignments	100 points
Final Exam	150 points
Total	550 points

A+: 97-100%	A: 93-96%	A-: 90-92%
B+: 87-89%	B: 83-86%	B-: 80-82%
C+: 77-79%	C: 73-76%	C-: 70-72%
D+: 67-69%	D: 63-66%	D-: 60-62%
F: < 60%		

For this class, **you will need**  
reliable internet access, access to  
MyMathLab, a scanner or scanner app  
like AdobeScan or CamScanner, and a  
basic 4-function or scientific calculator.

**Late work** is generally not accepted, but  
please contact me if you have special  
circumstances.

**Attending class is essential.** Please  
commit to attend every class meeting,  
unless there is an emergency. If you miss  
three classes, you may be  
dropped from the course. This is because  
students who miss this many class  
meetings rarely successfully complete the  
course. In an online course, not  
submitting an assignment will be  
regarded as an absence. Please  
communicate any special circumstances  
with me.

## MYMATHLAB COURSE ID:

andrew61758

## MECS DIVISION CHAIR:

Ariel Ramirez  
aramirez8@unm.edu

## ABOUT YOUR INSTRUCTOR:

I hope to see you in office hours! For now, here is a little about me. My name is Precious Andrew. Most students call me my first name, Precious, or Ms. Andrew if you prefer. I have been teaching mathematics at UNM since 2007. I have lived in New Mexico since I was a child, I studied at UNM, I love red chile, and I enjoy powerlifting.



## TUTORING:

You can schedule an appointment for free in-person or online **tutoring**. Stop by the Learning Center in the UNM-Valencia Campus library, email [tutor@unm.edu](mailto:tutor@unm.edu), call (505)228-8860, or visit the link to schedule an appointment –

[https://outlook.office365.com/owa/calendar/TESTLearningCommons@unmm.onmicrosoft.com/bookings/Links to an external site.](https://outlook.office365.com/owa/calendar/TESTLearningCommons@unmm.onmicrosoft.com/bookings/Links%20to%20an%20external%20site)



VALENCIA

# “You can totally do this!”

Here are some additional **resources**:

UNM Valencia Library -  
<http://valencia.unm.edu/library/>

UNM Valencia Life Resources -  
<http://valencia.unm.edu/students/student-resources.html>

Veteran's Resource Center -  
[vrc@unm.edu](mailto:vrc@unm.edu)

PASOS Resource Center - (505) 925-8546, [pasos@unm.edu](mailto:pasos@unm.edu). The Resource Center is an on-campus center that serves as a “one-stop” for all non-academic needs of UNM-Valencia students.



Here are some of the *student learning outcomes*:

By the end of the semester, students should be able to:

- A. State, motivate and interpret the definitions of continuity, the derivative, and the definite integral of a function, including an illustrative figure, and apply the definition to test for continuity and differentiability. In all cases, limits are computed using correct and clear notation. Student can interpret the derivative as an instantaneous rate of change, and the definite integral as an averaging process.
- B. Use the derivative to graph functions, approximate functions, and solve optimization problems. In all cases, the work, including all necessary algebra, is shown clearly, concisely, in a well-organized fashion. Graphs are neat and well-annotated, clearly indicating limiting behavior. English sentences summarize the main results and appropriate units are used for all dimensional applications.
- C. Graph, differentiate, optimize, approximate and integrate functions containing parameters, and functions defined piecewise. Differentiate and approximate functions defined implicitly.
- D. State the main theorems of calculus correctly, including all conditions, and give examples of applications. These include the Intermediate Value Theorem, the Extreme Value Theorem, and the Fundamental Theorem of Calculus.
- E. Compute integrals using the method of substitution, including changing the bounds in the case of definite integrals

## University Policies:

### Title IX:

Our classroom and our university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. Should you ever need assistance or have concerns about incidents that violate this principle, please access the resources available to you on campus. Please note that, because UNM faculty, TAs, and GAs are considered "responsible employees" by the Department of Education, any disclosure of gender discrimination (including sexual harassment, sexual misconduct, and sexual violence) made to a faculty member, TA, or GA must be reported by that faculty member, TA, or GA to the university's Title IX coordinator. For more information on the campus policy regarding sexual misconduct, please see: <https://policy.unm.edu/university-policies/2000/2740.html>.

**Grade mode and Withdrawals:** You must select your grade mode (Letter Grade, CR/NC, or Audit) within the first 2 weeks of the semester. Students who withdraw after the deadline will receive a grade of W. If you do not withdraw (but stop attending), you may receive a failing grade. Make sure to drop the class on my.unm if you wish to do so. See the list of all deadlines: [www.registrar.unm.edu](http://www.registrar.unm.edu)

### Accessibility Statement and

**Accommodations:** UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact the UNM-Valencia Equal Access Services, at (505) 925-8910 and/or The Accessibility Resource Center at [arcsrvs@unm.edu](mailto:arcsrvs@unm.edu) or by phone at 505-277-3506



## Schedule of Topics:

Week of	Topics
Aug 19	Selected Review
Aug 26	Sec. 3.1: Limits Sec. 3.2: Continuity
Sep 2	Sec. 3.3: Rates of Change Sec. 3.4: Definition of the Derivative
Sep 9	Sec. 4.1: Techniques for Finding Derivatives Sec. 4.2: Derivatives of Products and Quotients
Sep 16	Sec. 4.3 The Chain Rule Sec. 4.4: Derivatives of Exponential Functions
Sep 23	<b>Review</b> <b>Exam #1</b>
Sep 30	Sec. 4.5: Derivatives of Logarithmic Functions Sec. 5.1: Increasing and Decreasing Functions Sec. 5.2: Relative Extrema
Oct 7	Sec. 5.3: Higher Derivatives, Concavity, and the Second Derivative Test <b>Fall Break</b>
Oct 14	Sec. 5.4 Curve Sketching
Oct 21	Sec. 6.2: Applications of Extrema Sec. 6.4: Implicit Differentiation
Oct 28	Sec. 6.5: Related Rates <b>Review</b>
Nov 4	<b>Exam #2</b> Sec. 7.1: Antiderivatives
Nov 11	Sec. 7.2: Substitution
Nov 18	Sec. 7.3: Area and the Definite Integral Sec. 7.4: The Fundamental Theorem of Calculus
Nov 25	Sec. 7.5: The Area Between Two Curves <b>Thanksgiving Break</b>
Dec 2	Review
Dec 9	<b>Final Exam TBA</b>

