

Syllabus Math 163

UNM Valencia Fall 2017

TEXTBOOK: Thomas' Calculus 12th Edition.

Instructor: Alfonso Heras aheras@unm.edu

Office Hours: (@ my office) M-TH: 8:00 - 9:00 am and (@ the STEM Center) T\Th: 10:30 - 11:30

CONTENTS: Most of chapters 6, 7, 8, 9, 10: transcendental functions, integration techniques, introduction to differential equations, sequences, series, and Taylor series with applications.

COURSE WEBSITE: learn.unm.edu

GRADING: Your total course grade is obtained from your percentage grade out of the following:

Three in-class exams: 100 pts each
Daily Quizzes: 200 pts (At the stem Center)
Final Exam: 200 pts
Total : 700 pts

Note on Ws:

If you withdraw after the 3rd week of class, you will receive a W. If you do not withdraw, you will receive a letter grade of A, B, C, D or F (and not a W).

HOMEWORK: Your homework is your most important effort in this class; homework is how you actually learn the material that will be on the quizzes and exams.

Expect to do 2-3 hours of homework for every hour of class meeting time (on average 10-15 hours per week).

Each day, you need to do a written homework posted on your learn.unm.edu account, that you must write out by hand. This homework is due at the beginning of the class. The "Daily Written" problems must be clearly and neatly written up in a folder or notebook that you need to bring with you when you go to see the instructor or get tutoring.

The "Daily Written" problems are representative of most of the material you will be tested on in exams and quizzes. You therefore need to do all of the listed problems on a daily basis in order to succeed. Unfortunately, we cannot collect the problems for grading in the summer. It is your responsibility to do these problems and ask your instructor about anything you do not understand.

QUIZZES: There will be a daily quiz given in class, consisting of recent homework problems.

In order to do well on the quizzes, make sure to fully understand the solution to these homework problems. As a bonus, you will then understand the material well and will also do well on the exams.

There will be no makeup quizzes unless you contact your instructor ahead of time with a documented "university authorized absence" (documented illness, family emergency, active participation in scholarly or athletic events).

The first quiz will be given on the second day of classes.

EXAMS: The in-class exams and the final exam will cover problems similar to all of the assigned homework problems, a selection of which is given in review sheets for each exam. The exam dates are given in the syllabus. No makeup exams will be given unless you contact your instructor ahead of time with a documented "university authorized absence" (illness, family emergency, active participation in scholarly or athletic events).

GRADING GUIDELINES: To get full credit on exams, homework, quizzes, worksheets, you need to show your work, neatly, in clear and correct mathematical notation, annotated by English sentences where appropriate. You will be graded based on the work shown, not on the answer.

CALCULATORS: Graphing calculators and other technology (eg, MATLAB) can be used effectively to illustrate many basic concepts and promote understanding. However, the student must master many basic algebraic and graphing skills without a calculator. To promote these skills, we **will not** use any (graphing or non-graphing) calculators on the exams or quizzes.

ATTENDANCE: Attendance is mandatory. If you have three or more unexcused absences your instructor may drop you from the class. However, you are ultimately responsible for dropping your class if you cannot attend.

STUDENT BEHAVIOUR: Be courteous and respectful towards the class: be on time for lectures, turn off cellphones and refrain from talking in class, leaving the classroom in the middle of a lecture or doing any other activity that could be disruptive to the class. Cheating will not be tolerated.

DISABILITY STATEMENT: Students with documented disabilities must inform their instructor of their particular needs during the first two weeks of the semester.

Week		Section	Suggested Problems
1-2		6.1 Volume Using Cross-Sections: Solids of Revolution. 6.3 Arc Length. 6.5 Work and Fluids Forces.	Section 6.1: 7, 49 Section 6.3: 2, 11, 22 Section 6.5: 7, 8, 17
		7.1 Inverse Functions and Their Derivatives. 7.2 Natural Logarithms. 7.3 Exponential Functions.	Section 7.1: 1-6, 11-16, 17, 23-34 Section 7.2: 3, 4, 15, 21, 38, 62 Section 7.3: 5, 9, 19, 21, 35, 37, 39, 53
3-4		7.5 Indeterminate Forms and L'Hôpital's Rule. 7.6 Inverse Trigonometric Functions. 7.7 Hyperbolic Functions.	Section 7.5: 1, 3, 7, 11, 13, 53, 59 Section 7.6: 1, 3, 5, 9, 13, 15, 21, 25, 43, 47, 51, 93, 103, 107
		7.8 Relative Rates of Growth. Review Exam 1	Section 7.7: 1, 5, 6, 13, 41 Section 7.8: 1-8, 15, 16, 20
5-6		Exam 1 Discussion of the Exam	
		8.1 Integration by Parts. 8.2 Trigonometric Integrals.	Section 8.1: 1, 15, 17, 31-50 Section 8.2: 1, 3, 7, 11, 23, 33, 35, 47
7-8		8.3 Trigonometric Substitution. 8.4 Integration of Rational Functions by Partial Fractions.	Section 8.3: 1, 3, 4, 9, 15 Section 8.4: 11, 21, 47
		8.6 Numerical Integration. 8.7 Improper Integrals. Review Exam 2	Section 8.6: 3, 5, 23, 25 Section 8.7: 1, 3, 9, 25, 35, 65
9-10		Exam 2 Discussion of the Exam	
		10.1 Sequences. 10.2 Infinite Series. 10.3 The integral Test.	Section 10.1: 1, 3, 7, 13, 16, 27, 29, 41 Section 10.2: 1, 3, 7, 9, 19-22, 35-40, 49-52, 55, 69, 73 Section 10.3: 1, 5, 6, 11,
11-12		10.4 Comparison Test. 10.5 The Ratio and Root Tests. 10.6 Alternating Series.	Section 10.4: 1-8, 9-16, 41 Section 10.5: 1, 9, 17, 19, 39, 57 Section 10.6: 2, 3, 7, 9, 15, 17, 23
		10.7 Power Series. 10.8 Taylor and Maclaurin Series. Review Exam 3	Section 10.7: 1, 6, 41, 43, 52 Section 10.8: 11-22, 23, 25, 37
13-14		Exam 3 Discussion of the Exam	
		10.9 Convergence of Taylor Series 10.10 Binomial Series and Applications of Taylor Series. 9.1 Solutions, Slope Fields, and Euler's Method. 7.4 Exponential Change and Separable Differential Equations.	Section 10.9: 1-10, 11-16, 17 Section 10.10: 1, 5, 15, 29 Section 9.1: 1-4, 11-14 Section 7.4: 1, 5, 11, 19, 32, 33, 43
15		Review Final Exam	
		Final Exam	