Calculus I/Math 162 Syllabus UNM-Valencia Campus Spring 2018 meets MW 4:30-6:15p

Instructor: Clifton Murray, office A126A , Hours **MW** 3:15-4:15p, **T** 4:15-5:30 p, **Th**,11:45a-12:30p, 1:15-2:45p, 4:15-5:45p.
wcmurray@unm.edu, 505-925-8727

Prerequisites: C or better in both Precalculus (Math 150) and Trigonometry (Math 123).

Required Materials:

Text: Thomas' Calculus **14th** ed. by Weir & Hass—big, expensive, but good all the way thru Calc III at UNM-VC.

Calculator: A scientific graphing calculator is required, and will be useful on homework, in class, and on tests.

Student Learning Objectives: By the end of the course, the student should be able to explain and solve problems involving at least the following: (1)Limits; (2)the Derivative; (3)the derivative considered as a rate of change; (4)finding local extrema of functions and (5)optimization problems; (6)anti-derivatives ("integrals"); (7)differential equations solvable by integration; (8)estimating changes with differentials; (9)estimation with finite sums; (10)the fundamental theorem of calculus; (11)definite integrals; (12)finding the area between two curves

Academic Dishonesty, as defined in the UNM-VC catalog, includes copying work from other students. Anyone doing this on tests is subject to disciplinary action, ranging from "a reduced or failing grade for the work in question and/or the course" to "dismissal from the University".

Disruptive Behavior is any behavior which interferes with other students' learning &/or with the instructor's ability to guide that learning. Examples include repeated loud talking/ laughing/chatting with your buddy which require repeated warnings from the instructor, or derisive/ridiculing comments toward other students or the instructor (the quickest way to get expelled from the class). Just keep your motives constructive, and it'll be a good educational experience.

Any *sexual misconduct* or gender discrimination brought to a faculty members' attention must, per UNM policy, be reported to the Office of Equal Opportunity and the Title IX Coordinator. For information re what comprises sexual misconduct, see https://policy.unm.edu/university-policies/2000/2740.html

Cell phones and similar devices: OFF at all times in the classroom. No text messaging while class is in session. No use of cell or smart-phones during tests; if a student temporarily leaves class during a test, she/he must leave phone with instructor.

Children in Class: Sorry, but children are not permitted in class due to liability concerns.

Disabilities: Should you have a disability requiring special accommodation, please bring the instructor appropriate documentation from Equal Access Services.

Homework Format: Homework problems should be clearly separated, either by whitespace (that means more space between main problems than within the problem), or by a separation line between main probs (not between subprobs a, b, c…). Turn homework in by *day*—not by section. That is, if sec 3.1 and 3.2 are presented on the same day, 3.1 and 3.2 should be grouped together—stapled—not separate.

Also, please either put the **main** prob #--5, 11, 21, …etc (**not** a,b,c…).—to the left of all other work, **or** make it extra BIG. This is to also help make the separation between main problems really obvious, so the instructor can find and check off the main problems fast. Finally, some homework problems pertain to either a geometric figure, curve, or a physical situation. For these type problems, a simple **sketch** is required.

Each homework assignment is due the next class day. Homework turned in one class day late will be reduced to a max score of 50%; two or more days late will receive zero credit. If an incomplete assignment is turned in, that will be the only scoring of that assignment; no further credit will be given for remaining work for that assignment.

a *Formula Sheet* will be provided for each test. Minor notes, such as the title of a formula, or what a quantity signifies, are allowed. But partially or fully worked-out examples are Not permitted. Any student caught with such will have her or his formula sheet confiscated, and will be subject to disciplinary action.

Attendance: If a student does not appear the 1st two days of class, the instructor may drop that student. Otherwise, After 4 unexcused absences, the student may be dropped from the course without further notice.

Makeup Work: Tests: There are no makeup tests, except in verified emergencies—in such cases, expect a maximum score of 80%. (Early tests, on the other hand, Might can be arranged without penalty.)

Late Homework: 1 day late, minus 50%. 2 days late, zero credit.

Final Exam Minimum: **65%. Less will result in an automatic course grade of D or lower**, regardless of other test or homework scores.

Grading	Max possible points
Homework	100
4 tests	400
Drop lowest one of tests or homework:	-100
Final Exam* (not dropped, comprehensive)	150 *Again*: You must make 65% min, for course grade > D.*
	550 Max poss course total

Let total course score = x:

$532 \leq x \leq 550$	A+	(unless a test is missed or hmwk score < 50%)
$512 \leq x < 532$	A	(unless a test is missed)
$495 \leq x < 512$	A-	
$477 \leq x < 495$	B+	
$457 \leq x < 477$	B	
$440 \leq x < 457$	B-	
$422 \leq x < 440$	C+	
$402 \leq x < 422$	C	
$385 \leq x < 402$	C-	
$330 \leq x < 385$	D	
$0 \leq x < 330$	F	

CALC I / MATH 162 4:30-6:15p

SPRING 2018

CLIFTON MURRAY
UNM-VALENCIA

* ATTACH DAY'S HMWK TOGETHER, STAPLED AS SINGLE UNIT. HMWK DUE NEXT CLASS: MONDAY

PUT XTRA SPACE OR THICK LINE BETWEEN MAIN HMWK PROBS. (NOT a, b, c)

MAKE MAIN PROB # BIG, & TO LEFT OF WORK.

MONDAY	WEDNESDAY
15 JAN MARTIN LUTHER KING DAY (TEXT: Thomas Calculus, 14th ed)	17 JAN CH. SEC 2.1 SLOPE → RATE of CHANGE SECANT LINE → TAN LINE. 2.1 HMWK #1, 4, 7, 9, 19
22 JAN 2.2 LIMITS. HMWK #1, 11, 15, 19, 21, 23, 25, 27, 31, 43, 45, 47, 58, 63.	24 JAN 2.4 ONE-SIDED LIMITS #1, 3, 11, 13, 15, 23, 27, 31. ATTACH 2.4, 2.5 TOGETHER, YES! 2.5 CONTINUITY #1, 3, 5, 13, 17, 19, 31, 35
29 JAN 2.6 LIMITS INVOLVING INFINITY. #1, 3, 5, 13, 15, 17, 23, 27, 29, 37, 45, 85	31 JAN REVIEW
5 FEB TEST #1 SLOPES, TANGENT LINES, LIMITS.	7 FEB 3.1 DEFINITION of DERIVATIVE #1, 5, 29, 31 3.2 DERIV. OF A FUNCTION $f'(x) = \frac{df}{dx}$ #1, 3, 13, 27, 29, 37, 45, 47, 49
12 FEB 3.3 WAYS TO FIND DERIVATIVES FAST #1, 7, 13, 17, 21, 41a, 41c 3.5 DERIVS OF TRIG FUNCTIONS #1, 3, 5, 35	14 FEB ♡ 3.4 DERIV AS RATE-OF-CHANGE #3, 13, 15, 25 3.6 DERIV of COMPOSITE FNS: CHAIN RULE #1, 3, 9, 17, 25, 85
19 FEB 3.7 WANT dy/dx BUT CAN'T SOLVE FOR y? — IMPLICIT DIFFERENTIATION #1, 5, 19, 32, 44 3.8 APPLICATION: RELATE RATE PROBS # 1, 3, 13	21 FEB 3.8 CONT'N: MORE RELATED RATE PROBS #25, 27, 33, 40
26 FEB REVIEW	28 FEB TEST #2 DERIVATIVE CALCULUS
5 MAR 3.9 LINEARIZING A FUNCTION, DIFFERENTIALS #1, 17, 29, 35, 37, 41, 45, 47, 49	7 MAR 4.1 FINDING EXTREMA OF f(x) #1, 3, 5, 21, 27, 45, 69 4.2 MEAN VALUE THEOREM #49, 50
12 MAR SPRING	14 MAR BREAK
19 MAR 4.3 Is f(x) INCREASING OR DECREASING? — 1ST DERIV TEST #1, 3, 9, 41, 43 4.4 CONCAVITY OF CURVES #1, 7, 9	21 MAR FINISH 4.4. 4.5 OPTIMIZATION PROBS 4.5 #1, 2, 3, 7, 9, 13
26 MAR 4.6 SOLVING EQUATIONS BY NUMERICAL ESTIMATION #1 3.9 DIFFERENTIALS REVISITED #38, 44	28 MAR REVIEW
2 APR TEST #3 MAINLY EXTREMA PROBS, DIFF'L PROBS	4 APR 4.7 ANTIDERIVATIVES, SOLVING DIFFL EQUATIONS #1, 3, 17, 19, 21, 35, 71, 83, 102, 106
9 APR 5.2 SIGMA NOTATION IN MATH #1, 3, 5, 11, 13, 15, 17 5.1 APPROXIMATE AREA UNDER CURVE w/ RECTANGLES #6	11 APR 5.3 The RIEMANN SUM & The INTEGRAL #1, 29, 35, 41, 51, 55 5.4 FUNDAMENTAL THEOREM of CALCULUS #1, 13, 27, 33, 39, 47, 51.
16 APR HOW TO FIND TUFFER ANTIDERIVS.: U, DU SUBSTIT 5.5 #1, 3, 17, 19, 21, 25, 29, 55	18 APR 5.6 CHANGING LIMITS IN U/DU SUBSTIT. FINDING AREA BETWEEN TWO CURVES. #5, 9, 12, 25, 27, 41, 43
23 APR REVIEW	25 APR TEST #4 ANTIDERIVATIVE & INTEGRAL CALCULUS
30 APR REVIEW FOR FINAL	2 MAY REVIEW FOR FINAL
7 MAY	9 MAY FINAL EXAM 4:00-6:00p