MATH 151: CALCULUS WITH ANALYTIC GEOMETRY II

INSTRUCTOR: Ken Kuniyuki

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   If that address doesn't work, try kkuniyuk@sdccd.net
Office Hours: MW 4:00-4:50pm and TTh 5:00-6:50pm in Room H-212, Office F.
   You are encouraged to discuss any and all concerns with me.
Mailbox: H-207 (or H-212, which leads to the same room). There is a wooden cabinet
   consisting of cubbyholes labeled alphabetically by last name. I have a white label.
Voice Mail: Office (checked MTWTh): (619) 388-2396. Otherwise: (619) 252-4839.

MY WEB PAGE AT http://www.geocities.com/kkuniyuk

Ready access to the Internet and a printer will be assumed (and will prove very helpful)
but will probably not be required. Computers and printers are available at the LRC (the
Library), especially on the 4th floor. Let me know if you do not have access, or if you
encounter errors. We can make hard (i.e., printed) copies of some items.

I expect to post homework assignments; class notes; review notes (bring to class!); old
and current exams and solutions; class announcements; tentative schedules; tips on test
taking and reducing test anxiety; and extra links, notes, info, and resources for interested
students. I will try to help you form study groups.

TEXTS (ONE REQUIRED, TWO OPTIONAL & AVAILABLE AT THE BOOKSTORE)

• Calculus: The Classic Edition (5th ed.) by Swokowski; Publisher: Brooks/Cole

   This has been the standard Math 150-151-252 calculus textbook at Mesa College.
   Math 151 essentially covers Chapters 9-13 and Sections 6.6-6.8, 7.6, and 19.1.

Optional but highly recommended (the bookstore has the first two; amazon has the third):

   • The accompanying Student Solutions Manual by Cole and Rockswold.
      Volume 1 covers Chapters 1-11; Volume 2 covers Chapters 11-19.

   • How to Ace the Rest of Calculus: The Streetwise Guide by Colin Adams,
      Joel Hass, and Abigail Thompson. This is a cheap, highly readable, fun,
      informal supplement. Its Math 150 prequel, How to Ace Calculus, can
      help on Chapter 9 and Section 7.6.

   • Calculus for Dummies by Mark Ryan. This covers both 150 (review) and 151.

OTHER SOURCES

You are encouraged to look at other calculus textbooks, such as:

- Calculus with Analytic Geometry by Larson, Hostetler, Edwards;
  Publisher: Houghton Mifflin. Easy-to-read but sometimes imprecise.

- Calculus: Early Transcendentals by Stewart;
  Publisher: Wadsworth. Used at UCSD (?), but opinions of this book vary.
  I believe the non-Early Transcendentals version is used at SDSU.

- Calculus and Analytic Geometry by Thomas/Finney;
  Publisher: Addison-Wesley

These paperbacks are much cheaper than textbooks, and they have many worked-out problems. "Advanced Calculus," "Differential Equations," "Vector Calculus," and "Linear Algebra" books in these series are also available for your later math classes.

- Schaum's Outline of Calculus by Mendelson and Ayres;
  Publisher: McGraw-Hill

- 3,000 Solved Problems in Calculus (Schaum's Solved Problems Series)
  by Mendelson; Publisher: McGraw-Hill

- REA's Problem Solvers: Calculus, or The Calculus Problem Solver
  by Weisbecker; Publisher: Research & Education Assn.

You can purchase these books at bookstores or through www.amazon.com
The LRC (our library) may have old editions.

PREREQUISITE

MATH 150 (Calculus I) with a grade of "C" or better, or equivalent.

COURSE DESCRIPTION

Catalog Description

> This is a continuation of Mathematics 150. This course covers more advanced topics in analytic geometry, differentiation and integration of algebraic and transcendental functions, infinite series, Taylor series, and parametric equations. This course also covers a general introduction to the theory and applications of power series, techniques of integration, and functions in polar coordinates, as it serves as a basis for multivariable calculus and differential equations, as well as most upper division courses in mathematics and engineering. It is intended for the transfer student planning to major in mathematics, computer science, physics, chemistry, engineering and economics. This course meets general education requirements, CSU, IGETC, and TAG requirements.

COURSE OBJECTIVES

From the District's Course Outline (I may modify this.)

Upon successful completion of the course the student will be able to:

1. Use various techniques of integration.
2. Evaluate improper integrals.
3. Integrate logarithmic and exponential functions. [Math 150 and 151]
4. Graph conic sections using translations and rotations of axes.
5. Determine the convergence or divergence of infinite sequences and series.
6. Graph parametric equations.
7. Graph polar equations and find related arclengths and areas.
8. Read and explain mathematical arguments.
9. Use L' Hopital's Rule to evaluate limits.

ADDITIONAL HELP

Your fellow students! My web site may provide some help.

Students have found tutoring services to be a critical resource!

• **Tutoring Center** (Room K-211). Walk-in tutoring for Math and Science. Tentative Hours: MTWTh 8:30am-6:30pm, F 8am-2pm. Phone: (619) 388-2898. You will need to sign up for the 0-unit Credit/No Credit "course" Math 44 (CRN: 42781). No extra work is required.

• **STAR Tutoring** (Building I-300, Room 101). One-on-one weekly tutoring for eligible students (low income, first generation college, or disabled). Hours: MTWThF 8am-5pm. Phone: (619) 388-2706.

Center for Independent Learning (Learning Resource Center, LRC - "The Library"; 4th floor). Videotapes may be available. Library Hours: MTWTh 7am-9pm, F 7am-5pm, Sat. 8am-3pm. Phone: (619) 388-2769.

Web sites! My web site has links that may prove helpful.

ACCOMMODATIONS

Students with disabilities or medical concerns who may need academic accommodations should notify their professors immediately. Visit the DSPS Office in Room H-202; it could raise your GPA dramatically!! Phone: (619) 388-2780; for the hearing/speech impaired: (619) 388-2974. Hours: MTThF 7:50am-4:30pm, W 7:50am-7pm.

If you expect to be involved in professional or college activities (e.g., military duty or athletics) that may, for example, hinder your ability to attend class, submit homework, and/or take exams, let me know as soon as possible so that accommodations may be made.

DEADLINES (SEE THE "VERY TENTATIVE SCHEDULE")

Dropping without a "W"; add codes (*)	Thurs.	Feb. 12	Week 2
Refund eligibility for dropped classes	Tues.	Feb. 17	Week 3
Credit / No Credit petition	Mon.	Mar. 8	Week 6
Withdrawal deadline (**)	Fri.	Apr. 16	Week 11 (if 10 is Spring Break)
Grades available (http://studentweb.sdccd.net)	Mon.	June 7	

(*) Tuition and fees must be paid within five days of adding a course,
    or by Feb. 12, whichever comes first.

(**) If you do not withdraw from the class by this deadline, I must give
    you a standard A-F grade.

GRADES / EXAMS

Cheating is, of course, forbidden. Possible penalties include assigned scores of "0," a course grade of "F," and action by the school dean. Refer to Policy 3100 in the Mesa College catalog. Collaboration outside of class is encouraged, but copying is forbidden, and any attempts to compromise exam security will not be tolerated.

Bring a scientific calculator to all exams on which calculators are allowed. Graphing calculators may be forbidden or their use curtailed; grade reductions may result from their use.

Do not expect to be able to make up exams. Even if the instructor allows a student to take a makeup exam, there are no guarantees; for example, the exam may be heavily penalized or not graded or returned at all. In any event, a student must inform the instructor **as soon as possible** if accommodations need to be made.

Points may be deducted for messy work, lateness, failure to adhere to "good form and procedure" as presented in class, and the like!

Your course score will be out of 700 points (700 points = "100%"), divided as follows:

QUIZZES: 500 points (which is about 71% of 700 points)
-- 5 quizzes given, each worth 100 points (about 14% of 700 points)

QUIZ	MATERIAL
Quiz 1	**Chapter 9**
Quiz 2	**Chapter 10**
Quiz 3	**Sections 11.1-11.5**
Quiz 4	**Sections 11.6-11.8**
	(Chapter 12 is fair for the Final.)
Quiz 5	**Chapter 13**
	(Misc. Topics may be fair for the Final.)

The quizzes are "closed book" and "closed notes," but a scientific calculator may be allowed.

HOMEWORK ("HW"): 60 points (about 9%)
-- 10 points for each of 6 submissions

HW	MATERIAL
HW 1	Chapter 9
HW 2	Chapter 10
HW 3	Sections 11.1-11.5
HW 4	Sections 11.6-11.8
HW 5	Chapter 12 (notes online; due at the Final)
HW 6	Chapter 13 + Misc. Topics? (due at the Final)

Although you are <u>strongly</u> encouraged to do problems as soon as you can, homework will typically be **collected on the day of the corresponding quiz**, unless the due date is explicitly postponed.

Remember to write your name on your homework! Contact me if you want to encode your name for privacy purposes.

<u>Make sure you clearly separate sections on your homework!</u>

Failure to do homework in a timely manner can wreck your grade in this class - in terms of both points and exam preparation!

Answers to odd-numbered problems are in the back of the textbook. Many "worked-out" solutions are in the <u>Student Solutions Manual</u>. Use the <u>Student Solutions Manual</u> wisely.

On your homework, **show work where appropriate**. Points may be deducted from homework assignments that are turned in late, that are incomplete or illegible or messy, that are plagiarized, or that have insufficient work.

CLASS PARTICIPATION: 40 points (about 6%)

This involves class attendance and promptness, disruptive behavior, and/or participation in office hours and in-class activities and exercises. Class participation may be a key factor in determining grade "borderline" cases.

FINAL: 100 points (about 14%; same weight as one quiz)

This is an essentially **comprehensive** exam that will be given **during the last class session, on Wed., May 26, in our regular room**.

The first part of the Final (45 points) will consist primarily of True/False, multiple choice, and/or short-answer questions.

The second part (55 points) will focus on **Chapter 12 and maybe Misc. Topics.**

You will be allowed to use <u>one</u> 8 1/2" by 11" sheet of notes for the entire Final. You may use both sides of the sheet. Students with vision impairments should speak with me. The sheet must be two-dimensional - no "pull-outs" or other tricks! Typing and photocopying are fine, though writing by hand is recommended. You should stress organization over clutter. Work on this throughout the semester.

Bring a scientific calculator in case one is allowed.

<u>**The following are guarantees:**</u>

<u>Course score out of 700</u>	<u>Grade guarantee</u>
At least 630 (90%)	A
At least 560 (80%)	B or better
At least 490 (70%)	C or better
At least 420 (60%)	D or better

In other words, I do <u>not</u> reverse curve. The grade cutoffs may be lowered. Percents may not be rounded up! Class participation could be critical here.

The course may be taken on a Credit / No Credit basis, but check your program requirements, first. The petition deadline is Mon., Mar. 8 (Week 6).

COME TO CLASS WITH:

• The appropriate textbook(s), at least on days when I will answer your HW questions.
• The review notes when we are ready to review, if you can print them out.
• **A scientific (<u>not</u> graphing) calculator - you will need one for the course. Graphing calculators may be forbidden on exams.**
• Some paper and a pencil or pen: for note taking and in-class exercises
• Homework (on exam dates; keep yourself updated on changes to our schedule!!)

∅ KIDS

Children are forbidden in the classroom. Check with the Child Development Center in Building R. Phone: (619) 388-2812. See p.23 of the printed schedule.

ATTENDANCE

Students who are absent for the equivalent of two or more class meetings or roll calls may be dropped from the course; refer to the Mesa College catalog. Students who miss the first day of class may also be dropped. **It is VERY important for you to be in class throughout the <u>entirety</u> of the scheduled time. I consider tardiness and premature departures as forms of absences, particularly if habitual; many students are distracted by such behavior. Your attendance and tardiness record may also affect your grade.** You must inform me of medical priorities and the like as soon as possible.

CLASSROOM BEHAVIOR AND STUDENT CODE OF CONDUCT:

Students are expected to respect and obey standards of student conduct while in class and on the campus. The student Code of Conduct, disciplinary procedure, and student due process (Policy 3100, 3100.1 and 3100.2) can be found in the current college catalog in the section Academic Information and Regulations, and at the office of the Dean of Student Affairs (H-500). Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations.

Disruptive behavior will not be tolerated; disruptive students may be removed from the class and are especially likely to be dropped from the course. Disruptive behavior includes, among other things, inappropriate talking, eating or drinking in class, tardiness, and premature departures. Your grade may be affected. Discuss personal scheduling issues with the instructor. Refer to Policy 3100 in the Mesa College catalog.

REMEMBER TO TURN OFF YOUR CELL PHONE!!!

RESPONSIBILITY TO ADD, DROP, OR WITHDRAW

It is the student's responsibility to add, drop, or withdraw from class before the deadlines stated in the class schedule. Petitions to add, drop, or withdraw after the deadline will not be approved without proof of circumstances beyond the student's control which made him/her unable to meet the deadline. Lack of money to pay fees is not considered an extenuating circumstance. Students anticipating difficulty in paying fees before the add deadline should check with the Financial Aid Office about sources of funds or other alternatives for which they may be eligible.

If you decide to withdraw from this course, you are reminded to do so by the 10th week of instruction (I may call it "Week 11;" the deadline is the Friday after Spring Break). If you fail to withdraw by that date and you stop coming to class, a final grade must be assigned to you. Those attending after the withdrawal deadline will be given a letter grade.

Please discuss your plans to withdraw from class with your instructors. They may have other options for you that may allow you to continue in class.

INSTRUCTOR ABSENCE (DISTRICT POLICY)

If neither the instructor nor a substitute appears at the beginning of the scheduled class time, students shall wait 20 minutes; if neither the instructor nor a substitute appears within those 20 minutes, students may leave the classroom.

NOTES / CLASS CONTACTS (SEE MY WEB SITE, ALSO)

VERY TENTATIVE SCHEDULE (VERSION 1)
(May be changed arbitrarily; keep checking my web site!)

Rev. = Review

HW = Homework (and other) questions. I may take questions for a few minutes before a quiz.
(See me in my office hours, email me, or call me whenever you have questions.)

Week (Deadlines)	MONDAY	WEDNESDAY
1	2/2 (Day 1) Hello / 9.1	2/4 (Day 2) 9.2
2 Avoid W; Add codes (Th., 2/12) Holiday (Fri., 2/13; no weekend classes)	2/9 (Day 3) 9.3 / 9.4	2/11 (Day 4) 9.4
3 Refund deadline (Tues., 2/17)	2/16 **HOLIDAY**	2/18 (Day 5) 9.5 / 9.6 / Rev.
4	2/23 (Day 6) 10.1 / HW	2/25 (Day 7) HW / **QUIZ 1**
5	3/1 (Day 8) 10.2 / 10.3	3/3 (Day 9) 10.3 / 10.4
6 C/NC petition (Mon., 3/8)	3/8 (Day 10) 10.4 / 11.1 / Rev. / HW	3/10 (Day 11) 11.1 / 11.2 / HW
7	3/15 (Day 12) **QUIZ 2** / 11.2	3/17 (Day 13) 11.2
8	3/22 (Day 14) 11.3	3/24 (Day 15) 11.3
9	3/29 (Day 16) 11.4 / 11.5	3/31 (Day 17) 11.5
10 (or don't count)	4/5 **SPRING BREAK**	4/7 **SPRING BREAK**
11 (or 10) W deadline (Fri., 4/16)	4/12 (Day 18) 11.5 / 11.6 / Rev. / HW	4/14 (Day 19) HW / **QUIZ 3** / 11.6
12 (or 11)	4/19 (Day 20) 11.6 / 11.7	4/21 (Day 21) 11.7
13 (or 12)	4/26 (Day 22) 11.8	4/28 (Day 23) 11.8 / Rev.
14 (or 13)	5/3 (Day 24) 13.1 / HW	5/5 (Day 25) **QUIZ 4** / 13.1 / 13.2
15 (or 14)	5/10 (Day 26) 13.2 / 13.3	5/12 (Day 27) 13.3 / 13.4
16 (or 15)	5/17 (Day 28) 13.4 / Rev. / HW	5/19 (Day 29) Ch.12 / Rev. / HW
17 (or 16)	5/24 (Day 30) **QUIZ 5** / Misc. / HW	5/26 (Day 31) HW / **FINAL**

Grades available: Mon., June 7 (http://studentweb.sdccd.net)