

**Syllabus for MATH 2421 Section 001**  
**Calculus III (Summer 2008)**

1. **Instructor:** Chris Harder

If you have any complaints about me, then you should go talk to Mike Kawai [MERC Lab Director, SI 132] first, and then, the Associate Chair of our department, Professor Lynn Bennethum. Her phone number is (303)556-4810.

2. **E-mail & Phone:**

Christopher.Harder@cudenver.edu

(303)556-4888[CU-Denver Bldg. Room 649]

3. **Time and Location:** Monday/Wednesday/Friday: 10:30 a.m. - 1:00 p.m. in NC 2002.

PLEASE TURN OFF YOUR CELL PHONES DURING OUR LECTURE PERIODS!

4. **Office Hours:** I will conduct my office hours in the MERC Lab (SI 130/132) from 9:30 a.m to 10:15 a.m. before each class meeting. If you have any concerns *after* lecture period, just ask me and we can arrange a meeting if I cannot service your request immediately.

5. **Website:** math.cudenver.edu/~charder

Check here if you missed a lecture.

6. **Course Description:** Topics include vectors, vector-valued functions, partial differentiation, multiple integration, and vector calculus.

7. **Prerequisite:** MATH 2411 [Calculus II]

8. **Textbook:** *Calculus: Concepts and Connections*, Smith/Minton (Maroon Book). We cover five chapters, beginning with Chapter 08.

9. **Technology:** A graphing calculator (TI-89) is often very handy during lectures to check boardwork. I will specify if a calculator can be used on an in-class quiz. We do NOT use them during the tests. If you have a Windows PC, you may obtain a free copy of Derive5 from the MERC Lab. Follow the installation instructions very carefully!

10. **Course Goals:**

- (a) To reinforce knowledge gained from Calculus I & II.
- (b) To extend that knowledge to multivariable calculus.
- (c) To demonstrate the immediate relevance and applicability to other disciplines (Physics, in particular).

11. **Grading:**

	Weight
Homework	20%
Test #1	40%
Test #2	40%

Your final course grade will be determined by the following percentage scale:

92.0 or more	=	<i>A</i>
90.0 - 91.9	=	<i>A</i> –
87.0 - 89.9	=	<i>B</i> +
81.0 - 86.9	=	<i>B</i>
79.0 - 80.9	=	<i>B</i> –
76.0 - 78.9	=	<i>C</i> +
70.0 - 75.9	=	<i>C</i>
55.0 - 69.9	=	<i>D</i>
Below 55.0	=	<i>F</i>

## 12. Homework:

- (a) I will pass out the homework cover sheets in class. The due date should be displayed on each assignment.
- (b) Typically, homework is due at the BEGINNING of the class meeting displayed on the assignment sheet. You may turn in your assignments at the MERC Lab when it is open. Be sure that the Lab Assistant writes the date and time when it is placed in my “IN” folder.
- (c) Each homework assignment is worth 10 points.
- (d) Late homework:  
If you have made some *prior* arrangement with me, then no points will be deducted. Else, I will deduct 2 points for turning in late homework. I will not accept late homework which is more than one class meeting late.
- (e) We do NOT have a lot of time to answer homework questions during the lecture periods. It is imperative that you do not miss any class meetings!
- (f) All homework must be completed on *engineering pad paper*. Only use the graph paper side when drawing scaled graphs and figures.  
For each question, you MUST:
  - (i) give a short summary of the problem statement. I should NOT need to refer back to the text to determine the problem statement.
  - (ii) organize all work neatly. Do NOT cram everything together on one page. It pays to do most of the work on scratch paper *first*, and then copy your final solutions to the engineering pad.
  - (iii) box or highlight your final answers. I hate playing hide-and-go-seek when grading your assignments.
- (g) It is imperative that you spend as much time as possible at mastering the homework and computer work (10 hours minimum per week; some of that time can be spent in the MERC Lab working with other students!). Spend your time wisely! If you find yourself working on one problem for more than 10 minutes without any progress, then move on to another problem. Doing other problems will often clarify something which you needed to do for the original problem. If you are getting stuck on all the problems, then collaborate with other students or with me during office hours.

13. **In-Class Tests:**

- (a) We strive to provide a *short review* prior to each in-class test, but our schedule is quite tight. Be sure to ask questions about the review material which will be handed out two class meetings before each exam.
- (b) No technology is allowed on the test. We supply you with a note sheet of formulas prior to the test.
- (c) There are severe consequences for not contacting me prior to test time if you cannot take the tests at the appointed time! (E-mail!!!)
- (d) Test #2 is NOT cumulative in the sense that we will not ask duplicate material from Test #1, BUT you must still retain the material from Test #1 in order to complete many of the problems on Test #2!

14. **Academic Honesty:**

- (a) I HAVE NO TOLERANCE FOR CHEATING. Cheating of any kind on a quiz or test will result in a course grade of "F". It is possible that you will also be expelled from the University.
- (b) It is okay to collaborate on homework, but if there is obvious evidence that you are simply COPYING homework solutions from a solutions manual or from another student, then you will receive a failing grade on that assignment.  
You are responsible for being attentive to or observant of campus policies concerning academic honesty as stated in the University's Student Conduct Code.  
(<http://thunder1.cudenver.edu/studentlife/studentlife/discipline.html>)

15. **Drops & Incompletes:** You have until Monday, June 30th to drop this course with only the instructor's (but not the Dean's) signature.

Since the tests are worth 40% of your grade, there is NO obvious provision for receiving an Incomplete grade for this course. Thus, be ABSOLUTELY sure that you can complete the course as of June 30th!!! If something really strange occurs toward the end of the Summer Semester, then you may discuss your situation with our Associate Chair, Professor Lynn Bennethum (see above).

16. **Religious Holiday Accomodations:** You must inform me *at the beginning of this semester*, in order for me to accomodate any rescheduling of your coursework.

17. **Disability Accomodations:** To be eligible for accomodations, students *must* be registered with the UCDHSC Office of Disability Resources and Services (DRS). The office is located in the North Classroom Bldg. [(303)556-3450]. Faculty cannot arbitrarily decide to give a student extra time, extra assistance, or other forms of aid unless it is formally mandated by the DRS.

## Dean's Office Announcements:

1. CLAS students must always have an accurate mailing (snail mail) and e-mail address. See [www.cudenver.edu/registrar](http://www.cudenver.edu/registrar).
2. Students are responsible for completing financial arrangements with financial aid, family, scholarships, etc.
3. Important dates:
  - (a) 6 June (5:00 p.m.): Last day to DROP a course without a \$100 drop charge.
  - (b) 8 June (5:00 p.m.): Last day to ADD courses using SMART web registration system. After this day, students need their instructor's and dean's approval to add a course! This is also the last day to add students to the wait list.
  - (c) 10 June (5:00 p.m.): **CENSUS DAY**. Last to DROP a course with tuition *adjustment*, request a "No Credit Grade", request Pass/Fail for a course, or register as a Summer 2008 Degree Candidate.
  - (d) 10 June (5:00 p.m.): Last day to ADD a course using a Schedule Adjustment Form.
  - (e) 30 June (5:00 p.m.): **DROP DAY**. Last day for students to DROP a course without a petition to the student's academic dean. After this date, no DROPS or WITHDRAWALS are allowed unless there are very special circumstances. **This is treated as an absolute deadline.**
  - (f) 4 July (Friday): Campus Holiday. No class meetings.

## Tentative Schedule

- 06/02:** Sect. 8.1 (Vectors in 2D)  
Sect. 8.2 (Vectors in 3D)
- 06/04:** Sect. 8.3 (Dot Product)  
Sect. 8.4 (Cross Product)
- 06/06:** Sect. 8.5 (Lines & Planes in 3D)  
Sect. 9.1 (Vector-Valued Functions)
- 06/09:** Sect. 9.2 (Calculus of Vector-Valued Functions)  
Sect. 9.3 (Motion in Space)
- 06/11:** Sect. 9.4 (Curvature/Unit Tangent Vector)  
Sect. 9.5 (Tangent & Normal Vectors)
- 06/13:** Sect. 8.6 (Surfaces)  
Sect. 10.1 (Functions of Several Variables)
- 06/16:** Sect. 10.2 (Limits & Continuity)  
Sect. 10.3 (Partial Derivatives)
- 06/18:** Sect. 10.3 (Partial Derivatives) [cont.]  
Sect. 10.4 (Total Differential, Linear Approximations, and Tangent Planes)
- 06/20:** Sect. 10.5 (Chain Rule)  
Sect. 10.6 (Gradient & Directional Derivative)
- 06/23:** Sect. 10.7 (Extrema of Two-Variable Functions)
- 06/25:** Catch-up & Review
- 06/27: TEST #1** (through Section 10.6)
- 06/30:** Sect. 11.1 (Double Integrals)
- 07/02:** Sect. 11.2 (Area, Volume, and Center of Mass)  
Sect. 11.3 (Double Polar Integrals)
- 07/07:** Sect. 11.3 (Double Polar Integrals) [cont.]  
Sect. 11.4 (Surface Area)
- 07/09:** Sect. 11.5 (Triple Integrals)  
Sect. 11.6 (Cylindrical Coordinates & Triple Integrals)
- 07/11:** Sect. 11.7 (Spherical Coordinates & Triple Integrals)  
Sect. 12.1 (Vector Fields)
- 07/14:** Sect. 12.2 (Curl & Divergence)  
Sect. 12.3 (Line Integrals)

- 07/16:** Sect. 12.3 (Line Integrals) [cont.]  
Sect. 12.4 (Independence of Path)
- 07/18:** Sect. 12.5 (Green's Theorem)
- 07/21:** Sect. 12.6 (Surface Integrals)  
Sect. 12.7 (Divergence Theorem)
- 07/23:** Catch-up & Review
- 07/25: TEST #2** (starting with Section 10.7)