Darren Grant
ECO 4401
Mathematical Economics
364 BEL "Smokey the Bear"

This course presents basic microeconomic theory using calculus. One of the goals of this class is to prepare students for graduate level work in economics. The level of mathematical and economic sophistication in this class will be markedly higher than that you've experienced in other undergraduate economics classes. For that reason, I encourage students with weak backgrounds to drop the course.

This is an economics class, not a mathematics class. Don't forget what you've learned in principles and intermediate. It emphasizes theory as opposed to application. Application of micro theory to real-world phenomena is covered in other economics classes, such as ECP 3203 and ECP 3403. The scientific testing of the theories developed in this class (and elsewhere) is discussed (on an introductory level) in Introduction to Econometrics, ECO 4421.

Text: Binger and Hoffman, <u>Microeconomics with Calculus</u>. Also, don'tlose your other microeconomics texts, or your calculus text.

Office Hrs. and Help: MF, 12:05-1:05, and W, 10:15-11:15. Or, you can ask to make an appointment, or just stop by when my door is open. I have no phone. To reach me, call the Economics Department office at 644-5001 and leave a message.

Participation: Attendance and participation is expected in this class much more than in most classes. This is extended to include participation in class discussions and homework sessions, in which the class (not me) goes over problems from the homework assignments. On each test, I will apprise you of the quality of your classroom participation. Let the following be a guide:

S: Contributes to classroom discussion, both during homework sessions and otherwise, answers questions (as best one can) when asked.

N: Answers questions with "I don't know," completes homework but does not participate in homework sessions.

U: Does not complete homework, spotty attendance. Fails to go to the board when asked.

Ten percent of your grade is based on participation. As a general guideline, all "S's" will translate into all 10 points, all "N's" into 5 points, and all "U's" into 0 points. If you miss more than eight classes you will generally receive a 0/10 for participation, unless circumstances warrant otherwise.

Grades: Your grade is comprised of five components. We have three tests, one of which is your final exam. Your best test of the three will count for 35% of your grade; your next best test, 30%; and your worst test for 20%. Your final exam score will count for an additional 5%. The remaining 10% is based on classroom participation and attendance, as described above.

The grading scale is given below. Fractions of a point may be rounded up or down at my discretion. I generally do not curve.

100-92 A	81-80 B-	64-63 D+
91-90 A-	79-77 C+	62-57 D
89-88 B+	76-68 C	56-55 D-
87-82 B	67-65 C-	54-0 F

Makeups: There won't be any, because you won't miss the tests. Valid excuses like serious illness or death in the family will require written documentation. Notes from the Health Center will not be accepted. You may be able to take an exam early; come see me.

Topics of Study: Topics and the relevant chapters in the text are identified on the following outline.

Unit 1--Mathematics of Optimization. Aug. 29 - Sept. 30. After the first week, this unit is all math.

    Week   1 : Introduction and Preview.
    Weeks 2,3 : Unconstrained Optimization.   (Ch. 2)
           Mon., Sept. 5: Labor Day.
    Weeks 3,4 : Equality Constrained Optimization.   (Ch. 3)
           Fri., Sept. 23: Last Day to Drop.
    Weeks 4,5 : Inequality Constrained Optimization.   (Ch. 3)
           Wed., Sept. 28: Test 1.

Unit 2--Consumer Theory with Calculus. Oct. 3 - Nov. 2.

    Week   6 : Utility Theory   (Ch. 5)
    Weeks 7,8 : Theory of Demand, with Applications   (Ch. 6,8,9)
    Weeks 9,10: Pure Exchange Economy   (Ch. 7)
           Wed., Nov. 2: Test 2.

Unit 3--Theory of the Firm with Calculus. Nov. 4 - Dec. 9.

    Weeks 10,11: Production Theory   (Ch. 10)
           Fri., Nov. 11: My Birthday. Take the day off.
    Week   12: Theory of the Firm   (Ch.'s 11-13)
    Week   13: NO CLASS ALL WEEK. I will be at a conference.
           Thurs., Nov. 24: Gobble, gobble, gobble.
    Week   14: Theory of the Firm, continued   (Ch.'s 11-13)
    Week   15: General Equilibrium with Production.   (Ch. 14)
    Week   16: Friday, Dec. 16, 10:00 am - noon: Test 3.
           This test emphasizes Ch.'s 10-13 and has some
           coverage of Ch.'s 2-9, but does not cover Ch. 14.