Math 1120: Business Calculus

Section 092, Fretwell 306, MTWR 6:30 – 8:25pm

Sarah Birdsong

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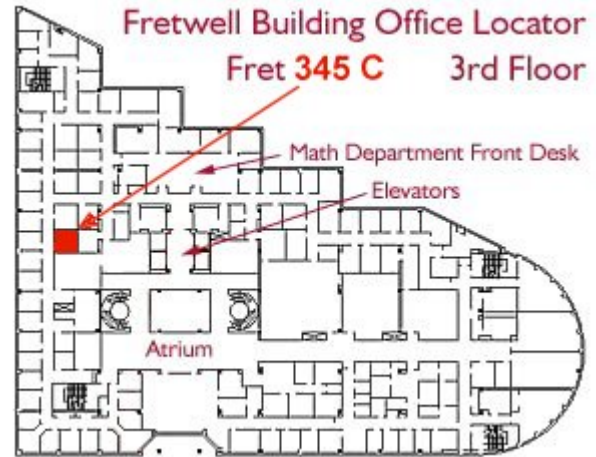   MW   5-6:30 pm
      TR   6-6:30 pm
Text:
    Title: Applied Calculus: for the managerial, life, and
        social sciences, 9th Ed.
    Author: S. T. Tan
Calculator (optional)
Class Website: http://www.math.uncc.edu/~sjbirdso/buscal

Topics Covered

This course gives the basics of differential and integral calculus. The main calculus topics covered will be limits, derivatives, integrals, and their uses both in mathematics and in real world situations from a variety of disciplines. Namely, we will look at chapters one through six of our text.

General Information

There will be two tests: a midterm (7/23/11) and a final exam (8/9/11). In the class before each test, there will be a review for that test. In lieu of any other tests, there will be daily quizzes which will cover topics discussed in the previous class period. There will also be homework from the textbook due every Monday and Wednesday. Typically, several homework sets will be due at a time. Final grades will be determined by:

Homework	20%
Quizzes	20%
Midterm	30%
Final	30%

Expectations

I expect all work on your tests and quizzes to be your own. That means no help from other students, professors, tutors, friends, family, etc. (http://legal.uncc.edu/policies/ps-105.html#III) You can, however, ask me any questions you may have. If I find cheating on a test, that test will be scored as a zero; if I find a student has cheated for a second time, that student will receive a zero for the course.

For homework questions, you may use any resource at your disposal. As long as your homework is written out in your own handwriting and follows the correct format (see guidelines for homework), it does not matter how you got your answers.

Study Tips

I would recommend creating a formula sheet as a quick reference for when you are working on homework questions. You may also want to form a study group to work on homework or to study for tests. Between 3-7 people works well. Both the math tutoring lab (Fretwell 315) and the tutoring center (Fretwell 318) will be open over the summer for additional help.

Make-Up Work

You must contact me ahead of time to arrange for make-up tests or quizzes.

Questions

Feel free to bring any questions to class. You can also come by my office, talk to me after class, email me, or call me with any questions.

(Tentative) Schedule of Sections Covered

Monday	Tuesday	Wednesday	Thursday
			July 5 Review Topics 1.4, 2.1, 2.2
July 9 2.3 2.4	July 10 2.4 2.5	July 11 2.6	July 12 3.1 3.2
July 16 3.2 3.3	July 17 3.4 3.5	July 18 4.1 4.2	July 19 4.3 Review for Midterm
July 23 Midterm Exam	July 24 4.4 4.5	July 25 4.5 5.1 5.2	July 26 5.2 5.3
July 30 5.4 5.5 5.6	July 31 6.1	August 1 6.2	August 2 6.3 6.4
August 6 6.4 6.5	August 7 6.5 6.6	August 8 6.6 Review for Final	August 9 Final Exam (6:30pm – 9:00pm)

General Class Info

Time: MTWR 6:30pm – 8:25pm

Location: Fretwell 306

Homework: due on Mondays & Wednesdays

Quizzes: due every non-test class day, either in-class or take-home

HOMEWORK SETS & QUIZZES

All homework assignments are taken from the exercises in *Applied Calculus for the Managerial, Life, and Social Sciences: a brief approach*, 9th Edition by S.T. Tan. It is your responsibility to make sure you have the correct questions for each homework set and that each set is in the correct format. Note, for chapters 1-4, the questions from the 8th and 9th Editions are the same. However, for chapters 5 and 6, some of the story problems were updated in the 9th edition from the 8th edition.

Set	Section	Topic	Question numbers
1	1.1-1.3	Algebra review	*p48*: 1-8 and *p47*: 30, 32
2	1.4	Straight lines	1-5, 18, 27, 44, 73, 74
3	2.1	Functions & graphs	1, 12, 27, 35, 48, 53, 54, 67, 72, 82
4	2.2	Algebra of Functions	21, 29, 32, 40, 47, 53, 63
5	2.3	Functions & models	6, 7, 10, 11, 15, 18, 19, 41, 62, 75
6	2.4	Finding limits	1-5, 12-13, 24, 29, 33, 36, 43, 52, 62, 66, 76-78, 82, 85
7	2.5	1-sided limits & continuity	1, 2, 4, 21, 23, 28, 38, 40, 63, 65
8	2.6	Derivative definition	3, 10, 13, 18, 35
9	3.1	Basic derivative rules	2, 4, 14, 24, 29, 32, 36b, 39, 43, 46, 69
10	3.2	Product & quotient rules	1, 4, 12, 16, 21, 43, 45, 53, 57, 60
11	3.3	The chain rule	6, 18, 23, 25, 31, 34, 58, 68, 72, 79
12	3.4	Marginal functions	6, 13, 33
13	3.5	Higher order derivatives	3, 24, 27, 30, 33
14	4.1	Using the 1st derivative	9, 19, 44-48, 60, 72, 75
15	4.2	Using the 2nd derivative	2, 7, 8, 12, 16, 23, 32, 34, 65, 93
16	4.3	Curve sketching	10, 15, 29, 36, 62
17	4.4	Optimization – functions	6, 13, 20, 25, 34, 40, 50, 56
18	4.5	Optimization – story problems	5, 19-21, 31
19	5.1	Exponential functions	5, 6, 11, 15, 18, 24, 31, 37, 40, 48
20	5.2	Logarithms	8, 17, 18, 21, 27, 31, 38, 46, 47, 56
21	5.3	Compound interest	13, 24, 33, 40, 44
22	5.4	Derivatives of exponential functions	1, 9, 12, 23, 31, 37, 44, 52, 58, 75
23	5.5	Derivatives of log functions	1-3, 5, 10, 12, 14, 27, 34, 39, 43, 46, 48, 51, 67
24	5.6	Exponential models	3, 6, 16, 25
25	6.1	Antiderivatives	4, 10, 18, 30, 36, 47, 53, 56, 76, 91
26	6.2	U substitution	3, 8, 19, 22, 39, 41, 49, 54, 57, 59
27	6.3	Riemann sums	1, 5, 15, 17
28	6.4	Fundamental theorem of calculus	3, 14, 19, 26, 27, 32, 35, 42, 43, 51
29	6.5	Definite integrals	2, 12, 17, 23, 30, 44, 48, 60, 74, 76
30	6.6	Area between 2 curves	4, 6, 8, 36, 43

HOMEWORK SET DIRECTIONS

- Be sure to put your NAME on each set.
- The pages of each set (ie: each chapter section) must be STaPLEd together.
- Do <u>not</u> staple the pages of multiple sets together.
- For each question, **copy** out the <u>entire</u> question from the textbook. Then show your work, and give your answer. Note, you do not need to write out the directions verbatim; however, make sure that all important information is included.
- Make sure your handwriting is LEGIBLE, and **clearly** indicate your answers. If I cannot read your answers and work, it won't get graded. If you type your homework sets, be sure that any mathematical symbols print correctly.
- Homework sets are due on the *Monday* or *Wednesday* following the class in which the chapter section was completely covered.
- Solutions to homework sets will be posted on the class website on *Fridays*.
- Grading system:
    - Each question is worth 1 point.
    - Each homework set turned in on time will get at least 50% so long as something intelligible is written down.
- Late submissions:
    - Sets turned in after the answers have been posted WILL NOT BE GRADED.
    - Late sets turned in before the answers have been posted will get a 20% deduction off the grade it would have gotten if turned in on time and will get at least 25% so long as something intelligible is written down.

Quizzes

- Quizzes may be given in-class or take-home.
    - In-class quizzes will be given at the <u>beginning</u> of class.
    - Take-home quizzes will be posted on the class website by <u>midnight</u> the day before it's due.
- All quizzes are designed to take between 5 to 10 minutes.
- Most quizzes will not require the use of a calculator.
- Quizzes will cover the material discussed in the previous class.
- Each quiz will be scored out of 10 points.
- Make sure your handwriting is legible, and clearly indicate your answer.