About the course

Name : MATH 115 or Life Science Calculus I, whichever you prefer.
Place : Classes in MSC W303 and Labs in MSC W201
Time : Classes on MW 2:30-3:45 PM and Labs on F 3:00-3:50 PM
Book : Calculus for the Life Sciences, Bittinger, Brand and Quintanilla [BBQ]
       which carries on for M116 as well.
Website : http://www.mathcs.emory.edu/~nbhaskh/M115-2014Fall/homepage.html
       We will NOT be using Blackboard too much.

About me

Name : Nivedita Bhaskhar or N, whichever you prefer.
Email : nbhaskh AT emory DOT edu
Office : MSC W425
Hours : Thu 2:30-3:30 PM, Fri 4:00-5:00 PM or by appointment.

Surprise!

I’m both your class and lab instructor, so we’ll meet quite often. Yaay!

Before starting

A grasp of basic algebra and pre-calculus will be a big help. If algebraic
manipulations scare you, please let me know early on so that we can work
through the weak links and stabilize ourselves before the fun stuff starts!
After finishing

You will understand and be able to compute limits, derivatives, integrals (both indefinite and definite) and solve max-min problems and differential equations. You might also be possessed with the strange idea that Calculus is fun. Sometimes.

A, B, C, D, E or F

There will be about 8 to 9 quizzes (so almost weekly!), 2 midterms and a cumulative final examination. The break up of points is as follows

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<tbody>
<tr>
<td>Quizzes</td>
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<tr>
<td>Midterm – I</td>
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<td>Midterm – II</td>
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<td>Final</td>
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Exam dates

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<tbody>
<tr>
<td>Midterm I</td>
<td>Oct 08</td>
<td>2:30-3:45 P.M</td>
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<tr>
<td>Midterm II</td>
<td>Nov 19</td>
<td>2:30-3:45 P.M</td>
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<td>Final</td>
<td>Dec 12</td>
<td>8:00-10:30 A.M</td>
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Unchangeables

1. Exam dates and times CANNOT and WILL NOT be changed.
2. There will be NO make up quizzes or exams. However for the quizzes, the lowest two quiz scores will be dropped for grade calculations.
3. If you are absent for a quiz or an exam, you will get a zero score for it.
4. Please see the section Incompletes and Absences at http://college.emory.edu/home/academic/policy/incomplete_absence.html
The in-class exams during the term are “required midterm examinations” so are subject to the rule described there. If you know that you will have to miss an exam in advance, due to illness or a university-sanctioned off-campus commitment, you must contact me before the exam. Excuses such as travel for other reasons, non-Emory exams, etc., are not valid reasons for missing exams. As stated before, there are no make-up tests in this course.

5. Every one must be present for the final examination. If you fail to do so, you will fail the course.

Labs, review sessions and quizzes

Labs will be used to hold quizzes and review sessions, work through problems and quite frequently also to cover the material in case the class hours prove insufficient.

There will be review sessions before each midterm and final. And in case of excess enthusiasm, we can even have extra problem sessions!

The dates of quizzes are given in the tentative schedule. You will be notified in class well in advance in case there’s any change.

Students with disabilities

Students with disabilities, please consult the Office of Disability Services as soon as possible, so that they can contact me to make arrangements.

What to do, what not to do

1. During tests, you only need a pen or a pencil (i.e NO calculators, phones, textbooks or notes).

2. Your answer papers must be neat, and your handwriting legible. If an answer is not easily readable, you will receive no credit. Always show your work, label graphs (be mathematically hygienic!) No work = no credit!

3. Try to be present (physically and mentally!) in all classes. More importantly, be on time. If you do miss any material that is covered, it is your responsibility to look it up.
4. Ringing phones in class is NOT a good thing. Turn them off before class starts.

5. Follow the Honor Code. Always. It applies to all work in this course including quizzes, midterms and the final exam. http://college.emory.edu/home/academic/policy/honor_code.html

6. No collaboration of any kind during any graded test in this class.

7. No cheating. ’Nuff said.

8. You will be assigned homework from time to time. Whilst they will not be collected, the quizzes will build on them. So be prepared.

9. Check the course website frequently. Some of the course notes, tests and solutions will be posted there regularly. We will NOT be using Blackboard.

10. Course announcements will be updated at http://www.mathcs.emory.edu/~nbhaskh/M115-2014Fall/announcements.html

11. Office hours are there for a reason. Use them, and NOT just a day before the exam! Also feel free to email any questions you think require only short answers. I should mostly reply within 12 hours.
The plan

Please note that this schedule is tentative. It may be necessary to make changes to topics and to quiz and midterm dates, but we will try to keep to this schedule as much as possible. There will be no change in the final exam date.

Briefly

We will have a very quick pre-calculus review, followed by topics in differentiation and its applications. This will be the syllabus for Midterm I. Then we move on to growth models and integration on which topics you will be tested, in Midterm II. In the last few weeks, we will work though differential equations. The final exam will be cumulative and covers everything taught from Day 1 in this course, so preserve your class notes till the end!

In minute detail

1. **Aug 27 - 29**
   Precalc review - A whirlwind tour of 1.1 - 1.5, 4.1 - 4.2

2. **Sep 03 - 05**
   Limits : 2.1 - 2.2
   *Quiz 1 on Sep 5th on 2.1 - 2.2, 4.1 - 4.2*

3. **Sep 08 - 12**
   Gentle and graphical introduction to differentiation : 2.3 - 2.6
   *Quiz 2 on Sep 12th on 2.3 - 2.6*

4. **Sep 15 - 19**
   Hard core differentiation - rules and everything. What is $f''$ : 2.7 - 2.9, 4.5
   *Quiz 3 on Sep 19th on 2.7 - 2.9, 4.5*

5. **Sep 22 - 26**
   Recap of differentiation rules. Graph sketching. Glimmers of maxima and minima : 3.1 - 3.4
   *Quiz 4 on Sep 26th on 3.1 - 3.3*
6. **Sep 29 - Oct 3**
   More practice with extremas : 3.4 - 3.5
   *Quiz 5 on Oct 3 on 3.4 - 3.5*

7. **Oct 06 - 10**
   Midterm review session. Growth, Decay and Modelling : 4.3 - 4.4
   *Midterm I on Oct 8 on 1.1 - 3.5, 4.1 - 4.2*

8. **Oct 15 - 17**
   Fall break. We grow and decay again : 4.3 - 4.4
   *Quiz 6 on Oct 17th on 4.3 - 4.4*

9. **Oct 20 - 24**
   Introductory integration and THE FUNDAMENTAL THEOREM OF CALCULUS ! Woot! : 5.1 - 5.3
   *No quiz this week !*

10. **Oct 27 - 31**
    Fundamental theorem again and definitely, definite integrals : 5.3 - 5.4
    *Quiz 7 on Oct 31 on 5.1 - 5.4*

11. **Nov 03-07**
    Learning techniques of integration by parts and substitution : 5.5 - 5.6
    *No quiz this week !*

12. **Nov 10 - 14**
    Still refining our techniques of integration. Practice with improper integrals : 5.5, 5.6, 5.9
    *Quiz 8 on Nov 14th on 5.5 - 5.6*

13. **Nov 17 - 21**
    Midterm review session. Differential equations : 8.1
    *Midterm II on Nov 19 on 4.3 - 4.4,5.1 - 5.6,5.9*

14. **Nov 24**
    (Linear) Differential equations again : 8.1 - 8.2
    *No quiz this week !*

15. **Dec 01 - 05**
    One compartment models, round up of differential equations : 8.1 - 8.2
    *Quiz 9 on Dec 5th on 8.1 - 8.2*

16. **Dec 08** Last class ! Goodbyes, farewells and the final review session

17. **Dec 12** Final Exam from 8:00 to 10:30 AM