Calculus for Technology I – Fall Semester 2012
Syllabus

Math 2123.2 MWF 12:30 – 1:20 MSCS 422

Instructor: Dr. Anthony Kable
Office: MSCS 521
Office Hours: M 2:30 – 4:00, R 10:00 – 1:30
E-Mail: anthony.kable@okstate.edu
Office Phone: 744-7766
Phone Messages: 744-5688

Course Description

The course is an introduction to calculus, which is one of the most important parts of mathematics for applications to science and technology. Calculus has two branches, called differential calculus and integral calculus. Differential calculus is about how fast a quantity changes when another quantity that it depends on is changed. Things like slope (rate of change of vertical position with respect to horizontal position), speed (rate of change of position with respect to time), and current (rate of change of charge with respect to time) are all examples of a single mathematical concept, the derivative. Integral calculus is about figuring out the total change in a quantity given its rate of change. For example, it can be used to calculate the total mass of an object given its density, the total distance traveled given speed, and the total charge accumulated given current. This calculation is called integration.

The textbook is the 4th edition of "Technical Calculus with Analytic Geometry" by Peter Kuhfittig. We shall cover most of the first five chapters. The first chapter is actually about coordinate geometry rather than calculus. After that, there are two chapters on differential calculus and two chapters on integral calculus.

Grades

Your grade in this class will be based on your performance on three preliminary exams, a final exam, and ten homework assignments. You may also earn an attendance bonus. The weights of each of these categories are as follows:

EXAM 1	18%
EXAM 2	18%
EXAM 3	18%
FINAL EXAM	25%
HOMEWORK	21%
ATTENDANCE BONUS	UP TO 5%

The dates of the preliminary exams are shown on the course schedule, along with the chapters of the textbook that each exam covers. The final exam will be comprehensive. It will be held on Wednesday, December 12 from 10:00 – 11:50 in our usual room. The due dates for the homework are shown on the

course schedule. The assigned problems are all taken from the textbook. They are as follows:

Hmwk 1   1.1.2, 1.1.10, 1.1.14; 1.2.8, 1.2.28; 1.3.2, 1.3.12, 1.3.22, 1.3.26, 1.3.32
Hmwk 2   1.4.2, 1.4.12, 1.4.22, 1.4.24; 1.7.4, 1.7.8, 1.7.12, 1.7.16
Hmwk 3   1.8.2, 1.8.6, 1.8.16, 1.8.22; 1.9.4, 1.9.8, 1.9.22, 1.9.26; 1.10.6, 1.10.10, 1.10.14, 1.10.20

Hmwk 4   2.1.28, 2.1.38; 2.2.2, 2.2.4, 2.2.8, 2.2.26, 2.2.28; 2.4.4, 2.4.12, 2.4.16
Hmwk 5   2.5.6, 2.5.14, 2.5.16, 2.5.24; 2.7.2, 2.7.4, 2.7.6, 2.7.10, 2.7.14, 2.7.16, 2.7.32, 2.7.38
Hmwk 6   2.9.2, 2.9.4, 2.9.8; 3.1.4, 3.1.12, 3.1.20; 3.2.4, 3.2.6, 3.2.18, 3.2.38

Hmwk 7   4.1.2, 4.1.4, 4.1.10, 4.1.12, 4.1.14; 4.3.2, 4.3.4, 4.3.6, 4.3.8, 4.3.10
Hmwk 8   4.5.2, 4.5.8, 4.5.10, 4.5.12, 4.5.16, 4.5.56, 4.5.64; 4.6.8, 4.6.14, 4.6.20, 4.6.22
Hmwk 9   4.8.2, 4.8.6; 4.9.4, 4.9.6, 4.9.10, 4.9.16

Hmwk 10   5.1.4, 5.1.6; 5.2.2, 5.2.6, 5.2.10, 5.2.14; 5.3.2, 5.3.4, 5.3.10, 5.3.14

The homework score will be based on the best seven assignments (the lowest three homework scores will be dropped).

Class attendance is one of the strongest predictors of success (meaning a grade of C or better) in mathematics classes. Attendance will be taken every class period, beginning on Monday, August 27 and ending on Friday, November 30. If you miss no more than three class periods during this time then you will receive a 5% attendance bonus. This will be reduced by 1% for each absence beyond the third, to a minimum of 0% for eight or more absences. You must arrive on time and be present for the entire class period to be counted as present. Students with excused absences will be counted as present.

A total score of at least 90% will ensure an 'A', a score of at least 80% will ensure at least a 'B', a score of at least 70% will ensure at least a 'C', and a score of at least 60% will ensure at least a 'D'.

Calculators

You will require at least a scientific calculator for this class. A more sophisticated calculator is permissible, but not necessary. The Mathematics Department has graphing calculators available for check out to students who are enrolled in mathematics courses. Note that you will not be permitted to use any device that can establish a connection to a cellular or wireless network during exams. This means, for example, that you cannot use a cellphone calculator app or a tablet computer at these times.

Missed Work

The Mathematics Department suggests a policy on missed work, which I shall be following in this class. Here it is in full:

(A) Every student shall be offered reasonable accommodation in the event that he or she misses a major assessment activity for a valid and documented reason.

(B) Appropriate documentation shall be provided by the student in a timely fashion to support his or her request for accommodation.

(C) Major assessment activities are those such that a zero on that activity could reasonably be foreseen to impact the student's grade substantially; this category includes, but is not limited to, exams.

(D) Valid reasons include official University activities, activities associated with military service, illness, family emergencies, mandatory court appearances, and any other events of comparable gravity.

(E) Reasonable accommodation means that the student will be given the opportunity to earn a grade on the assessment activity that is based on criteria as similar as possible to those used to grade his or her classmates. This opportunity should normally be made available in a timely fashion.

What all this means is that if you have to miss a quiz or exam for a *serious* reason, *and you are able to provide acceptable documentation verifying that reason*, then you will be allowed to make up the missed work. If you have a scheduled University activity (like a field trip or sporting event) then it is normally best to do this beforehand. I try to be flexible and fair, so if you encounter an unusual circumstance then it is worth at least asking about make-up work, although I might say no.

D2L and E-Mail

I use OSU's online classroom (D2L) to post important information about the class. I suggest that you add a little basic information to your D2L profile, particularly if you are interested in studying with other students in the class. I use email to contact individual students and the class as a whole. This means that you must check your OSU email regularly. If you prefer to use another email address then you should arrange to have your OSU email forwarded to that address.

The MLSC

The MLSC ("Mathematics Learning Success Center") is currently located on the fourth floor of the Classroom Building (CLB). The Information Desk is in CLB 420. You can find the MLSC home page at the URL http://www.math.okstate.edu/mlrc/ This center offers tutoring services for classes up to Linear Algebra.

Miscellaneous Information

You should read the syllabus attachment for Fall 2012, which I shall post on D2L. This is a document that outlines some of the general academic policies of the University, as well as listing important dates.

You are subject to the University's policy on academic integrity. Information about this policy may be reached from the Division of Academic Affairs web page at http://academicaffairs.okstate.edu/