MATHEMATICS 81, LEHIGH UNIVERSITY, FALL 2011

Calculus with Business Applications

Text. Briggs and Cochran, *Calculus, Early Transcendentals*, first edition, Addison-Wesley.

Course Content. We will cover most of chapters 1 through 5 of the text, plus part of chapter 6. We will also reference a few sections in chapter 12 for examples of business applications. There are 34 lecture topics, each corresponding to approximately on section in the text. The detailed course content is listed at the end of this document. The first 5 topics are review material covered at a fairly fast pace. As you are expected to be familiar with this material already you may need to do extra review on your own.

Course Web pages. There are two web sites associated with this course.

The Lehigh Coursesite page will have postings of course annoucements, homeworks etc. You can also access your homework, quiz and exam scores using coursesite. You should regularly check this for postings. You will automatically have access to the MATH 81 page if you are enrolled in the class.

Online homeworks and electronic access to the text are through the CourseCompass website run by Pearson Publishing. You will use this site to complete the online homework assignments and see scores for those. To register for Lehigh's MATH 81 at this site you need an access code purchased at the bookstore or online. The access code is isaak43439

Office Hours. Office hours will be posted on coursesite for:

Garth Isaak (gisaak@lehigh.edu) is instructor. Office is XS 331.

Kathleen Ryan (kmr207@lehigh.edu) and Brittany Shelton (bcs207@lehigh.edu) are teaching assistants. Office is XS 309.

Grading. The various assignments, quizzes and exams will be scaled to give the following possible points towards your final total.

	Points
Written assignments	50
Online MML problems	75
Quizzes	75
Exams (100 each)	200
Final	200
Total	600

As described below, your grade will be based on the percentage of this total as well as meeting certain minimum benchmarks for the homeworks and quizzes. The grades posted on coursesite are just the scores. They may *not* be scaled to the values noted above. The MyMathLab posted scores will include both regular and review homeworks. Only the regular assignments count toward your grade.

The quizzes and written assignments and the online homeworks are an important part of the class. If your average in any of these is below 65% then the highest grade that you can get is a B. If your average in either of these is below 50% then the highest grade that you can get is a C. Exceptions only if you are clearly making an effort.

Assuming that you meet the benchmarks for quizzes and assignments and for online homeworks in the previous paragraph then the percentage of the total points will determine your grade: If you earn at least 540 points, 90% of the total, you will receive a course grade of at least A-, if you earn at least 480 points, 80% of the total, you will receive a course grade of at least a B-; if you earn at least 420 points, approximately 70% of the total, you will receive a course grades of at least a C-; and if you earn at least 360 points, approximately 60% of the total, you will receive a course grade of at least a D-.

Examinations. The Exams are scheduled as follows.

(1) **midterm examinations** Thursday October 6 and Thursday November 10. The locations will be announced. Note that the time for these is 4:00 pm.
(2) **Final examination** The final examination will be comprehensive. It will be scheduled by the registrar.

There will be make-up examinations for those who miss an examination for a reason that is verifiable, fully documented, and acceptable to the instructor. Arrangements for make-up examinations must be made with the instructor or TA at the earliest possible opportunity. Make-up final exams are scheduled through the Registrar. In no case can a make-up exam be earlier than the regular exam.

Quizzes. The will be short quizzes given at the start of class. Typically there will be a quiz each Wednesday and Friday.

If you miss a quiz for a reason that is verifiable, fully documented, and acceptable to the instructor then either you will be given a make-up or your scores will be adjusted accordingly, depending on the circumstances. You must make a reasonable effort to contact the instructor in advance.

For emergencies, illnesses etc that cause you to miss several days you should contact the Dean of Students office. They can assist with contacting instructors for all of your classes.

Assignments. There will be regular written assignments. Typically these will be due at the beginning of each class Monday. These will be posted on Course Site. Students are responsible to check due dates. In addition there are online homeworks that you will complete using the MyMathLab system. Due dates for these will be posted on the system. Additional practice problems and exam review questions may be provided.

Late assignments will not be accepted except for a reason that is acceptable to the instructor. In such cases either your assignment will be accepted or your scores will be adjusted accordingly, depending on the circumstances. You must make a reasonable effort to contact the instructor in advance.

Collaboration. Students are encouraged to discuss the course and assignments with one another, but copying is not allowed. In particular, your homework assignments must be your own work. Instances of plagiarism can result in a zero on the assignment, a failing grade in the course, or University disciplinary action.

Studying together is good and is encouraged. Just be sure that any actual work that you get graded on is your own.

Computers, Calculators and Assignments. For problems in the regular assignments, you should do the problems by hand. Of course, you may use calculators or computers to check your work.

Quizzes and examinations. Calculators are *not* allowed during examinations and quizzes. Cellphones and all other electronic gizmos must be switched off and out of your view. This includes music players and translating devices.

Network. Students should check their Lehigh e-mail regularly for announcements. If you do not want to use your Lehigh account, you must have your mail forwarded from the Lehigh address to the account you wish to use. Other information will appear on the class coursesite page.

Attendance. Attendance in lecture and recitation is required. After 3 unexcused absences we will contact your adviser and you may receive a "Section 3 report".

Accommodations for Students with Disabilities. If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and the Office of Academic Support Services, University Center 212 (610-758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.

Academic Integrity. Students are expected to follow academic integrity policies of the university. Please the web link http://www.lehigh.edu/ indost/conduct/index.shtml for information and details. Basically this means that for quizzes exams you work on your own with no extra resources unless instructed otherwise. From the site above you can access specific descriptions of academic dishonesty.

Course coverage. The following is a list of lecture topics. Most correspond roughly to one section in the text. We will cover approximately 1 lecture topics each class. The schedule is approximate. Exact coverage will be announced in class. Class notes will be used for topics not in the text.

Day	Sections
Aug 29	Introduction
Aug 31	functions
Sept 2	algebra review
Sept 5	lines and quadratics
Sept 7	exponentials and logarithms
Sept 9	trigonometric functions
Sept 12	limits
Sept 14	limits at infinity
Sept 16	continuity
Sept 19	derivative definition
Sept 21	derivative basics
Sept 23	derivatives
Sept 26	product and quotient rule
Sept 28	chain rule
Sept 30	rates of change
Oct 3	catch up and review
Oct 5	review
Oct 7	No class - exam Oct 6
Oct 10	No class - pacing break
Oct 12	growth rate
Oct 14	derivative information
Oct 17	extrema
Oct 19	graphing
Oct 21	optimization
Oct 24	implicit differentiation
Oct 26	linear approximation
Oct 28	partial derivatives
Oct 31	total differentials
Nov 2	partial derivative information
Nov 4	Lagrange multipliers
Nov 7	catch up and review
Nov 9	review
Nov 11	no class - exam Nov 10
Nov 14	exponential models
Nov 16	antiderivatives
Nov 18	integrals as areas
Nov 21	Riemann sums
Nov 23	no class - thanksgiving
Nov 25	no class - thanksgiving
Nov 28	integral definition
Nov 30	fundamental theorem
Dec 2	integration by substitution
Dec 5	areas of regions
Dec 7	net change
Dec 9	catch up and review