Calculus II Laboratory  
MAT 156 Syllabus  
Fall 2006

Meets: Tu 6:00–7:40 PM in G 207.  
Instructor: Yiannis Petridis, G 100B.  
E-mail: petridis@comet.lehman.cuny.edu  
Office Hours: Tu 4:00–6:00 PM or by appointment.  
Remark: The Maple assignments are located in the website  

http://comet.lehman.cuny.edu/calculus/156.html

This class has a web site, where you will be able to find the solutions to the Maple Assignments as well as other information. The URL is:  

http://comet.lehman.cuny.edu/petridis/156.html

Corequisite: MAT 176. This course is designed to supplement MAT 176 and must be taken in the same semester as MAT 176.  
Prerequisite: MAT 155 and MAT 175. Students who took Calculus I over the summer or at another college will not have taken MAT 155. Since scheduling makes it impossible to take this course at the same time as Calculus II, these students are allowed into the class.  
Remarks:

1. All lab reports are to be handed in at the beginning of the following week’s lab session.  

2. You will need two floppy disks. Every week you work on one, while the second is being graded.  

3. Create your own worksheet for each assignment. Do not write on the worksheet that you download from the website. Be sure that your NAME is at the top of each assignment worksheet.  

4. Your worksheets must be clearly written. Questions that are included in the assignment must be explicitly answered. The questions are in **boldface**.  

5. Your report is submitted as a floppy disc that bears your name.  

6. Before leaving the classroom you must log off of the network, shut down the computer and turn off the monitor. Penalties apply otherwise.
Exams: There will be one midterm exam: October 17. During the exam you are allowed to have a list of Maple commands.

Grading system: Reports 50%, Midterm Exam: 20%, Final project: 30%. In case you miss the midterm for well-founded reasons, your scale will be as follows: Reports 60%, Final project: 40%. You are not allowed to miss more than 2 lab reports.

Academic Integrity: It is expected that you will complete all reports without copying from anyone or letting other students copy from you. You may talk to other students about the weekly reports but you must then complete the report yourself. The minimum penalty for giving or receiving help on an exam, report or final project is a grade of 0 on that exam, report or project. The instructor reserves the right to investigate the contents of the floppy discs for cheating using computerized means and other techniques.

List of labs and their topics:
Lab 1: Maple review: decimal expansions, defining a function, solve and fsolve commands.
Lab 2: Continuation of Maple review: Derivatives, critical points, inflection points, Left-hand sums and right-hand sums for the velocity function. Plots and comparisons but no numerics.
Lab 3: Left-hand sums and right-hand sums: comparing sums with increasing number of subintervals, numerical evaluations of the sums, convergence of Riemann sums, introduction to loops.
Lab 4: Plots of circles and ellipses, implicitplot, completethesquare and scaling=constrained commands.
Lab 5: Trapezoid and Midpoint rules. Comparisons with Left-hand sums and Right-hand sums. The midpoint rule as a midpoint-tangent-trapezoid rule.
Lab 6: Calculating pi with Riemann sums. Substitution with Maple.
Lab 7: Area between two curves and volumes of revolution. The method of discs, washers and cylindrical shells.
Lab 8: Arclength of the circle and the ellipse.
Lab 9: Partial fractions and completing the square.
Lab 10: Integration by parts.
Lab 11: Improper integrals, comparing integrals.
Lab 12: Sequences and their limits, series and their sums.
Lab 14: Taylor polynomials.