

# MATH 161, Fall 2009

**Course Webpage:** <http://www.math.colostate.edu/~calc/M161>

**Common Office Hours:** In the TILT building tutorial hall, times as listed on the web pages. Advice about individual performance by appointment only.

**Prerequisite:** MATH 124, MATH 160

**Course Coordinator:** Dr. A. Hulpke (office hours for MATH 161 by appointment only)

**Course Content:** Inverse Functions, Exponentials and logarithms, Integration, Sequences, Series, Power Series and Taylor series, Polar Coordinates, Complex Numbers. A tentative day-by-day Syllabus with homework due each day is enclosed and can also be found on the course webpages. On the web pages you will also find an extended syllabus with comments about each section.

**Textbooks:** • Weir, Hass and Giordano: Thomas' Calculus, 11<sup>th</sup> edition.

We have worked hard to make this book available in an unbound, 3-hole punched edition, ISBN 0321589289 at 2/3 the price of the hardcover edition.<sup>1</sup>

If you prefer you may also use the hardcover edition (ISBN 032148987X) (It does not matter if you have the “media upgrade” edition or not) or the paperback “international edition” (ISBN 0321526791, available at foreign online stores, e.g. [amazon.co.uk](http://amazon.co.uk)) We will not use any online features bundled with certain edition and you will not need any special “access codes”.

- Ziliak, Hulpke: Supplemental Notes for Calculus II. (Version Fall 09) Available for free download on the course webpages.

**Calculator:** TI83 or better. There is no calculator use in the exams, so you won't need to buy a particular model of calculator. We will be using the computer algebra system MAPLE in the laboratories, this system is installed on the machines in the departmental lab.

**Expectations:** This is a college course and you are grown up. You can expect to be treated as adults but we expect adult behavior from you. **This might be different from how you were treated in school and comes with more responsibility on your side.** In particular we expect you to attend class regularly (not reading the newspaper, doing sudoku puzzles, listening to music or holding social conversations during class) and to hand in solutions to the homework problems regularly. If you have to miss a class it is your responsibility to find out from fellow students what material was covered. Don't come complaining about a bad grade if you did not attend class or do homework.

All audible signals of cell phones must be turned off at the start of class. If a cellphone rings during class we might assign extra homework<sup>2</sup>.

**We assume that you have read and understood the course policies as outlined in this sheet and on the course web pages under the “Policies” tab and are aware of all announcements made in class.**

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<sup>1</sup>It is recommended that you also get a 3-hole folder to carry the relevant chapters of the book. Chapters used in this course are listed in the enclosed day-by-day syllabus. You do not need to carry with you chapters that are not used that day in class. We also will not use chapters of the book not listed in the syllabus. If you do not plan to take MATH 160 or MATH 261, you can split the book with students from these courses.

<sup>2</sup>and adjust the number of required homework points accordingly

**Examinations:** Due in the first week is a gateway exam which tests material from prerequisite courses (which we assume you know already). This exam is administered in WebWorK (see below) and has only limited partial credit.

There will be three evening exams, and a final, as listed on the day-by-day syllabus. You must attend these exams. If these exam times overlap with regularly scheduled CSU courses (work or hobbies are not a valid excuse!) you may take these exams on the same day at alternate times of either 4.05pm or 7pm. No registration is necessary but you must bring to the alternate exam a printout of your schedule showing the conflict with the regular exam time (or Doctor's note or similar). There is no alternate time for the final.

The rooms for the exams will be assigned later and announced on the course webpages and in class.

The exams will test any or all of the material listed on the course schedule, including the problems and material introduced through homework, WebWorK, the technology labs and the listed practice problems. Problems will include multiple choice problems as well as "classical" written problems.

Calculators will not be allowed on the exams. Cellphones must be turned off during the exam and must remain in a bag during the entire exam. A ringing cellphone or use of an unauthorized electronic device (in any form: As clock, calculator, camera, notepad, toy, ...) during the exam will lead to disqualification (0 points) from the exam. Exam scores cannot be contested after the following exam.

**Exam conflicts/Alternate arrangements:** The **only** excused absences from exams are official university approved absences<sup>3</sup>. If a CSU event conflicts (at both the regular and the alternate times) with an exam or the final, or if you are ill, you must submit the alternate exam form that you can find on the course webpages (under 'Policies' or at <http://www.math.colostate.edu/~calc/M161data/pdf/makeupexam.pdf>), *together with supporting documentation* (e.g. a letter from the athletics department) to your section teacher. This request, including documentation, must be submitted at least 10 days before the exam (or, in the case of sudden illness, as soon as reasonably possible).

If you need alternate exam arrangements through Resources for Disabled Students, submit the RDS qualification letter (you do not need to bring the RDS exam form, we have copies) at least 10 days before the first exam to your section teacher. Alternate exam requests are processed once per exam, failure to submit requests *including documentation* in time can mean that no alternative arrangements will be possible!

If you have questions concerning alternate exams, please contact the course coordinator Dr. Hulpke ([hulpke@math.colostate.edu](mailto:hulpke@math.colostate.edu)).

**Grading Procedures:** The grades in class will be based on the gateway exam (40 points, given in increments of 8 points for every exam point beyond 11: I.e. 0 points for 11 correct problems, 8 points for 12 correct problems, 40 points for 16 correct problems), three common exams (100 points each), the final (200 points), homework (130 points), and technology labs (30 points) for a total of 700 points. The grade scale will generally be 90%-100% (630-700): A; 80%-90% (560-629): B; 70%-80% (490-559): C; 60%-70% (420-489): D; below 60% (0-419): F. The ranges of the grades may be scaled depending on any curves given for particular exams but will not be worse than the numbers given here. The grades in each of the ranges will include + and - (apart from C-, D+, D- or F+). An Incomplete will only be given extenuating circumstances (beyond the students control and could not have been anticipated or avoided) and needs to be approved by the Course Coordinator and the Undergraduate Director.

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<sup>3</sup>see section I.12.4 of the faculty manual,  
<http://facultycouncil.colostate.edu/files/manual/sectioni.htm#I.12.4>

After each exam we will post in RAMCT midterm grades as well as a “grade predictor” based on student performance in previous semesters. This predictor gives the percentages (rounded to multiples of 5, due to rounding errors percentages might not add up to 100) of grades of students in previous semesters performing in a similar range of scores as yourself. For example, a predictor 0A 15B 55C 30D 0F means that amongst students with similar exam performance, 15% ended up with a B, 55% with a C and 30% with a D; under 3% each had an A or F<sup>4</sup>. These percentages are given solely as an aid to help with self-evaluation of your performance and do not guarantee any grades.

**Homework:** Homework will be assigned in class. (Tentative assignments can be found on the enclosed syllabus.)

Homework will consist of problems to be done in WebWorK (see below) as well as problems from the *Supplemental Notes* book that are to be submitted on paper in class. Late homework will not be accepted. (Due to budgetary restrictions on graders, some homework problems might be graded only cursorily.)

The answer book for the textbook will be available on course reserve at the library.

All homework problems carry equal weight, there will be at least 180 problems assigned this semester. We will consider 130 problems to be 100% (i.e. no points beyond 130 will be given). As some midterm and final problems will be based on homework assigned in the course it is in your own interest to do all homework.

Solutions to the written homework problems do not just consist of a single solution but the (readable!) work needed to obtain the solution. You are welcome to use a calculator for arithmetic in the homework as long as this does not render the problem trivial. (For example you may use a calculator to evaluate  $\frac{1.1^9}{4 - 19^7}$ , but not to find an antiderivative of  $\int \sin(x)^3 \cos(x)^3 dx$ .)

Do **not** leave it until the evening before the due date to work on the homework problems — you will likely run into time problems.

**WebWorK** We will be using the system WebWorK (there is no relation to the University’s RamCT and you **cannot** access it through RamWEB) for part of the homework assignments. If your submitted solution is wrong, you have (unless the problem is multiple choice) unlimited (unless the problem is multiple-choice) further attempts to submit a correct solution. (There is no penalty for submitting a wrong solution first.) You may use a calculator to help with arithmetic.

To do these problems you have to log in via the course homepage <http://www.math.colostate.edu/~calc/M161>. Select the “WebWorK” tab and then the log in link.

Your user name is set to your university eName. This is typically your university email name, e.g. the address `myname@simla.colostate.edu` has eName `myname`. Your initial password is set to your CSU ID number (this is the 9-digit number on your university ID card, starting with ‘8’). Please as a first step change your password. As the login is not encrypted do **not** choose the same password as used for any important login (such as banking or email).

The WebWorK test “assignment”, set0, consists of some exercises about how to interact with the program. It does not count for credit.

Webwork homework is due at 8pm on the day indicated, however there is a grace period until midnight (on the server!) that is to make up for clock drift or network issues.

We initialize the data base for WebWorK with the students registered the weekend before classes start.

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<sup>4</sup>Course withdrawals, W on the transcript, are counted as F here.

If you registered for the course late, you might not yet have been added to WebWorK. In this case talk ASAP to your section instructor to be added. Also talk to your section instructor in case you cannot log into WebWorK or have forgotten your password.

**Technology Labs:** The labs will be assigned as indicated in the syllabus. The labs are based on the Maple software package. The write ups of these labs will generally be due one week after the lab days.

## Help and Support

**Work Load:** Students in general consider MATH161 a hard course. We assume that you know the material covered in the prerequisite courses well. As a rough estimate your time commitment *in addition to the 4 classes a week* is likely to be 8-12 hours a week just for review, homework and learning. Plan this time into your semester schedule **now**.

M161 is a course in which you need to work continuously — if you think you can learn the material just in the week before each exam you are setting yourself up to failure.

The following sections list further resources available to you.

**Office Hours** We are running common office hours, in the Great Hall of the TILT building. You can come to any of the offered hours, as listed on the course web pages.

**Free Tutoring** Courtesy of the College of Natural Sciences, free tutoring for MATH161 is available in the TILT Building most evenings. Tutors will be able to both help you with current homework or to show you solutions for homework past. More information is available at: <http://www.natsci.colostate.edu/tutoring/>

**Practice Problems:** Unless you find the assigned homework a zip through you might want to do further problems for practice: The syllabus lists such problems under ‘P:’. Try a range of these! (We will have in each exam problems that are taken from homework, webwork or practice problems.)

Practice problems cannot be submitted for grading, but you can get information about them in office hours or at the TILT building tutorials. We will also put the “Answer book” for the textbook (solutions for all problems but not worked out) on course reserve in the library.

You can expect that each exam will contain problems that are taken from homework, webwork or practice problems.

**Other Books** Depending on your style of learning you might be looking for books beyond the assigned textbook. The following book is written more in a “how to” style:

- A. Banner: *The Calculus Lifesaver*, Princeton, 2007, ISBN-13 978-0-691-13088-0 (Compared with our textbook this book covers less theory and not every topic, but it gives more concrete “recipes”.)
- Mueller, Brent, *Just-In-Time Algebra and Trigonometry*, Addison-Wesley, ISBN 0321269438.

A review of the algebra and trigonometry needed for calculus, organized along how material is needed in calculus. It might be a useful refresher if you are struggling with prerequisite material. A copy is on course reserve at the library.

We wish you a good semester and success in this course!