

MATH 161 Syllabus

Course: MATH 161 Calculus II, Spring 2013, 4 credits.

Course Coordinator: Dr. Anton Betten, Weber 207, email betten@math.colostate.edu

MATH161 Web Site: <http://www.math.colostate.edu/~betten/MATH161>

Office Hours and location: Weber 17 as posted on the web site.

Prerequisite: MATH 160, MATH 124.

Textbook: Weir and Hass. *Thomas' Calculus*, Twelfth Edition, Pearson Education Inc, 2010 (www.pearsoned.com) or *Thomas' Calculus, Custom Edition for CSU*. Pearson Learning Solutions, 2010.

Calculator TI-83 or better recommended.

Course Content: Sequences, Convergence, Series, Inverse Functions, Exponentials and Logarithms, Integration, Proper and Improper Integrals, Power Series and Taylor Series, Polar Coordinates, Complex Numbers.

Add and Drop:

End restricted drop: 1/25/13, End regular add: 1/27/13, Registration closes: 2/6, End course withdrawal: 3/25, University withdrawal deadline: 4/10. Summary: Make your choice of section in the first week of class. Overrides will not be given unless for a very good reason ("I don't like that teacher" is not a good reason). Overrides can only be obtained through the course coordinator. To initiate the process, see Annette Gonzales in the Math Department office Weber 101 **before Friday 1/25 at 4pm**.

Lectures:

Section 1 (CRN 13551) at 8am taught by Anton Betten in Nat. Res. 113

Section 2 (CRN 13552) at 10am taught by Elizabeth Lane-Harvard in ENGRG 120

Section 3 (CRN 13553) at 1pm taught by Mary Pilgrim in Nat. Res. 113

Section 4 (CRN 20057) at 2pm taught by Kun Wang in Glover 201

Section 5 (CRN 20059) at 2pm taught by Kun Wang in Glover 201

Section 301 (CRN 21412) at 8am taught by Anton Betten in Nat. Res. 113

Section 302 (CRN 21414) at 10am taught by Elizabeth Lane-Harvard in ENGRG 120

Labs and Recitations: Always on Tuesdays.

Labs are organized by lecture sections:

Lecture Section 1:

Lab 1 (CRN 13561) at 8am in Engineering E202

Lab N1 (CRN 21413) at 8am in Engineering E202

Lab 2 (CRN 13562) at 9am in Engineering E202

Lab 3 (CRN 13563) at 11am in Engineering E202

Lab 4 (CRN 13564) at 1pm in Engineering E202

Labs 1-4 and N1 are taught by Joan Toth.

Lecture Section 2:

Lab 6 (CRN 13566) at 8am in Engineering E105

Lab 7 (CRN 13567) at 10am in Engineering E204
Lab N7 (CRN 21450) at 10am in Engineering E204
Lab 8 (CRN 13568) at 2pm in Engineering E104
Labs 6-8 and N7 are taught by XXX.

Lecture Section 3:

Lab 10 (CRN 13571) at 10am in Engineering E202
Lab 11 (CRN 13572) at 12pm in Engineering E202
Lab 12 (CRN 13573) at 1pm in Engineering E202
Lab 13 (CRN 15270) at 3pm in Engineering E105
Labs 10-13 are taught by George Borleske.

Lecture Section 4:

Lab 15 (CRN 20058) at 2pm in Engineering E202
Lab 16 (CRN 20060) at 3pm in Engineering E202
Labs 15-16 are taught by Jennifer Maple.

Computer Labs: During the recitations on Tuesdays, we will break out into the computer lab in Weber 205. Besides Excel, we will use the computer algebra software Maple for symbolic computations and for plotting. Previous knowledge of a programming language is not required. Please remember the section number of your lab as you will need that when you take quizzes or exams. For after-hours studies, please check the opening hours of Weber 205 as they are posted at the door. The lab sections that will break out into Weber 205 will alternate according to the following schedule:

Date	L1,N1,L2,L3,L4 (Toth), L15,L16 (Maple) meet in	L6,L7,N7,L8 (XXX), L10,L11,L12,L13 (Borleske) meet in
1/22	Weber 205	assigned classroom (Engr E)
1/29	assigned classroom (Engr E)	Weber 205
2/5	assigned classroom (Engr E)	assigned classroom (Engr E)
2/12	Weber 205	assigned classroom (Engr E)
2/19	assigned classroom (Engr E)	Weber 205
2/26	assigned classroom (Engr E)	assigned classroom (Engr E)
3/5	Weber 205	assigned classroom (Engr E)
3/12	assigned classroom (Engr E)	Weber 205
3/26	assigned classroom (Engr E)	assigned classroom (Engr E)
4/2	Weber 205	assigned classroom (Engr E)
4/9	assigned classroom (Engr E)	Weber 205
4/16	assigned classroom (Engr E)	assigned classroom (Engr E)
4/23	assigned classroom (Engr E)	assigned classroom (Engr E)
4/30	assigned classroom (Engr E)	assigned classroom (Engr E)
5/7	assigned classroom (Engr E)	assigned classroom (Engr E)

Lab-Assignments: We will have four lab assignments. They have to be printed and turned in to the TA. Print your name and CSU-ID as well as your Lab number on the top. Keep

an electronic copy of your lab. We may ask you to provide this electronic copy in special circumstances (for instance, if you forgot to put your name on the lab). While we will teach you suitable Excel and Maple commands, you are not obliged to use any of these systems. We will accept lab reports that are based on other systems. However, if you decide to use a different system, do so at your own risk. We cannot provide support for systems other than Maple and Excel. The due dates are as follows:

Lab Assignment	Due date
Assignment 1	2/5
Assignment 2	2/26
Assignment 3	3/26
Assignment 4	4/23

Quizzes: Always on Wednesdays. Absolutely no make-up quizzes! The quizzes from Fall 2012 are posted on RamCT. Expect that the quizzes will be similar, even though there is no guarantee that this will be the case.

Exams:

Midterm Exam 1: Thursday 2/14 (5pm to 6:50pm)

Midterm Exam 2: Thursday 3/14 (5pm to 6:50pm)

Midterm Exam 3: Thursday 4/18 (5pm to 6:50pm)

Final Exam: TBA

No calculators, books, notes etc. during the exams.

Solutions to Exams and Quizzes: We generally *do not post* solutions to exams, quizzes etc. It is your obligation to follow up on quizzes and exams with your recitation instructor.

Homework: We will use an electronic system (Webwork) for homework assignments. Logins will be distributed in class. The website is linked from RamCT. Use your eID as login and your CSU-ID as initial password. Once you have logged in for the first time, change your password. If you have trouble logging in (for instance, because you added the course late), please go to the website posted on RamCT to request a WebWork login.

Fill in all your information and wait until we process your request. You will receive an email once your login is set up.

Evaluation of answers: Webwork accepts answers that are not simplified. Be aware that we expect you to simplify your answers on the exams and quizzes. Standard trigonometric values need to be evaluated and simplified.

Attendance: Attendance is required. We will take attendance during labs and recitations.

Tutoring: Free tutoring is available for this course through the Arts & Sciences Tutoring Program. The program is located in the Russell George Great Hall in The Institute for Learning and Teaching (TILT), and runs 5 p.m. to 10 p.m., Sunday-Thursday evenings during the academic year. No appointment is necessary and all students are welcome. For more information and tutoring schedule, please visit:

<http://tilt.colostate.edu/learning/tutoring/artSciences.cfm>

Mentoring Program: We are offering a mentor program I-CSU (intensive calculus study units). This program provides tutoring in a small group setting (typically 5 students with

1 mentor). The groups meet once a week in a designated room and at a designated time. Please consider applying for this program, as previous students found it very helpful.

We have statistical evidence that persistent attendance of study units raises the grades on midterm 2 by 4 points and on midterm 3 by almost half a letter grade (measured relative to students not in the mentoring program).

Participation in the ICSU program is by admission only. The application process is anonymous, facilitated by ticket numbers. The number of spots is limited, and we give preference to students with greater needs. Application is anonymous. An electronic application form will be made available early in the semester. The ticket numbers of selected students will be posted. Don't lose your ticket number. It is the only way we can identify you. Once you are admitted, attendance of your mentoring group is required. Failure to attend may result in you being dismissed from the mentoring program. In the unfortunate event that you will not be selected for the program, you can reapply. Please talk to your instructor in person. Depending on the need, we may find additional funds to open up new study units. In the meantime, please attend office hours as you are able.

Application Deadline: Friday 2/1 4pm.

Gateway Exam: The gateway exam is a written take-home assignment that is collected and graded. It covers Calculus-I topics.

Discussion Forum: We will use

<http://www.piazza.com>

for discussions. Use this forum to ask your questions. Someone will answer! Try to avoid emailing your instructors too frequently. The large number of students per class makes instructor emails somewhat painful. We appreciate your cooperation. By now, you should have received an email from Piazza. If not (for instance, if you enrolled late), please try to search for MATH161 at Colorado State University on that website and enroll yourself.

Grade Reports and RamCT: RamCT will be used for posting grades and distributing assignments and for posting announcements. We will distribute grade reports to students after Exams 2 and 3.

FERPA: The Family Educational Rights and Privacy Act (FERPA) severely limits the disclosure of information about students. Without a written, signed, release from the student we are unable to discuss course progress, grades, even the fact of enrollment in a course, with any person but the individual student.

RDS: Students working with RDS should make themselves known early and have their forms ready to be filled out by the coordinator. We require only one form for all Midterms, and later one form for the Final.

Alternate Exams: Exams must be taken at the time announced on the syllabus or in class. The only exceptions are conflicts with university events (such as band practice or sports team competitions) or events beyond your control that cannot be rescheduled (e.g. hospitalization). In either case it is the student's responsibility to inform the instructor in due course (well ahead of a conflict with a university events, or as soon as possible in case of a medical emergency) of this conflict and to provide written documentation.

Grading:

	Points
Midterm Exam 1:	100
Midterm Exam 2:	100
Midterm Exam 3:	100
Final Exam:	200
Lab reports and Written Assignments:	100
Quizzes:	100
Calc I Gateway Assignment:	30
Homework (WeBWork):	100
Attendance:	70
Total:	900

Point Range	Grade
810-900	A
720-809	B
630-719	C
540-629	D
0-539	F

Quizzes are worth 10 points each, and Labs are worth 35 points each. That is, the total number of points on quizzes is 150 and the total number of points on labs is 120. However, only 100 points on quizzes and 100 points on labs count towards your final class score. Summary: you can stop taking quizzes if you have collected more than 100 points.

Verification of Points: Please keep your graded labs/exams/quizzes etc. You may need them to verify your earned points should there be a dispute about grades. This is unlikely to happen but it has happened before and we cannot exclude the possibility of this happening again (human error!).

Academic Integrity:

We take academic integrity serious. If you need help, get it through the official channels as announced above. If nothing goes, send an email to your teacher or lab/recitation person. You may try asking for an extension. *Cheating is not an option.* If you use inappropriate means, you will find yourself in the office of the course coordinator.

Credible Scholarship requires academic integrity, a direct result of responsible research and writing habits. As with all ethically driven behavior, such habits – and their foundational underpinnings – are not innate. They are learned and – through practice – honed to a point where they become second nature, a character trait both much valued and much sought after in the professional world. Preparing for success in your chosen profession begins with developing and practicing these habits. One follows the other: Academic integrity lays the groundwork for professional integrity.

Quote from Colorado State University Student Conduct Code, Article III:

Any student or student organization found to have committed or to have attempted to commit the following misconduct is subject to disciplinary sanction. Academic misconduct including but not limited to: cheating, plagiarism, unauthorized possession or disposition of academic materials, falsification, or facilitation of acts of misconduct. Plagiarism includes the copying of language, structure, images, ideas, or thoughts of others and is related only to work submitted for credit.

Tentative syllabus (with section numbers):

- 10.1 Sequences, Convergence,
- 10.2 Series,
- 10.3 The harmonic series,
- 7.1 Inverse functions,
- 7.2 Natural logarithm,
- 7.3 Exponential function,
- 7.4 Exponential growth and decay,
- Exam 1 (Thursday 2/14)
- 7.5 L'Hôpital, Logarithmic limits
- 7.6 Inverse trigonometric functions,
- 8.1 Integration by parts,
- 8.4 Partial fractions,
- 8.7 Improper integrals,
- 10.1 L'Hôpital, special limits,
- 10.3 Integral test,
- 10.4 Comparison tests,
- Exam 2 (Thursday 3/14),
- 10.5 Ratio test,
- 10.6 Alternating series, absolute and conditional convergence,
- 10.7 Power series,
- 10.8 Taylor and Maclaurin series,
- 10.9 Convergence of Taylor series,
- Exam 3 (Thursday 4/18),
- 11.1 Parametrization of plane curves,
- 11.2 Arc length and area,
- 11.3 Polar coordinates,
- 11.4 Graphing in polar,
- 11.5 Area and arc length in polar,
- A.7 Complex numbers, algebraic and geometric ways to add and multiply, solving power equations
- Comprehensive Final Exam (during Final's week 5/13-5/17)