University of New Orleans

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University of New Orleans Syllabi

Fall 2015

MATH 2114

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University of New Orleans

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This is an older syllabus and should not be used as a substitute for the syllabus for a current semester course.

Recommended Citation

Course title and number: Math 2114: Prerequisites: Math 1126 with a grade of C or better. Limits and continuity of functions; introduction of the derivative; techniques of differentiation; Chain rule; implicit differentiation; differentiation of transcendental and inverse functions; applications of differentiation: concavity; relative extrema; maximum and minimum values of a function; optimization; anti-differentiation; definite integrals; Fundamental Theorem of Calculus; areas. This course requires an additional recitation hour.

Day, time, and place of class meetings: M-F, 8-8:50, Math 121

Instructor name: Cory Dumesnil

Instructor office location and office hours: Mathematics Building 241. MWF: 3-4, TTh: 10-11:30
Instructor phone number: 504-280-6126
Instructor email address: cdumesni@uno.edu

Student learning outcomes:
Evaluate limits
Understand and apply derivatives
Reason graphically
Explain the Chain rule
Solve optimization problems
Calculate tangent line approximations
Understand and apply the Fundamental Theorem of Calculus

Attendance policy:
Attendance is expected every day, including recitation days. After 6 unexcused absences, your instructor has the option of making every additional unexcused absence result in 1 percentage point taken away from your final average for the course. If the absence is excused, please provide a formal letter from your doctor (in the case of a medical absence), employer (in the case of a work absence), etc., which justifies your absence.

Required/recommended textbooks/learning resources:

Required Textbook: "Calculus 10th Edition" by Larson and Edwards. Note that you need EWA access as well and that the price of this is included when you buy the book at the UNO Bookstore.

Moodle: You can access Moodle at:
https://uno.mrooms3.net/login/index.php
Many items of interest for the class (this syllabus, practice exams, etc.) will be posted on Moodle. Your instructor also has the option of posting your grades in Moodle so that you can check them there at your convenience.

EWA: This course uses Extended WebAssign for automated homework grading. You can find a quick start guide at:
http://www.webassign.net/manual/student_guide/student_quick_start_guide.htm
Your class key *is* **uno 2979 3039**. UNO's institution code is uno.

Course prerequisites:
ACT Math $\geq$ 28, SAT Math $\geq$ 630, Compass Trigonometry $\geq$ 46, or C or better in Math 1126.

Tentative due dates for assignments, projects, tests, final exam:
Here we list rough outlines for which sections will be covered on which days, the dates of quizzes and exams, and due dates for homework.

In general, the EWA assignments are due on Friday. The homework due is up to what was covered that Wednesday in class (provided you finished covering the section on that Wed.)

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1 8/17-8/21			Classes begin 0.1	Recitation	0.1, 0.2
Week 2 8/24-8/28	0.3	0.3, 1.1	1.2	Recitation Quiz 1	1.2, 1.3
Week 3 8/31-9/04	1.3	1.3, 1,4	1.4, 1.5	Recitation Quiz 2	1.5
Week 4 9/07-9/11	Labor Day Holiday	2.1, 2.2	Test One Review	Recitation Quiz 3	2.2
Week 5 9/14-9/18	**Test One**	2.3	2.3, 2.4	Recitation Quiz 4	2.4
Week 6 9/21-9/25	2.4	2.5	2.5, 2.6	Recitation Quiz 5	2.6, 3.1
Week 7 9/28-10/02	3.1, 3.2	3.2, 3.3	3.3	Recitation Quiz 6	3.4
Week 8 10/05 – 10/09	3.4, 3.5	Test Two Review	3.5	Recitation Quiz 7	**Test Two**
Week 9 10/12 – 10/16	3.6	3.6, 3.7	Final drop date 3.7	Mid-semester Break	Mid-semester Break
Week 10 10/19-10/23	3.8	3.9	4.1	Recitation Quiz 8	4.1, 4.2
Week 11 10/26-10/30	4.3	4.3, 4.4	4.4	Recitation Quiz 9	4.5
Week 12 11/02-11/06	4.5	Test Three Review	4.6	Recitation Quiz 10	**Test Three**
Week 13 11/09 – 11/13	5.1	5.1, 5.2	5.2	Recitation Quiz 11	5.3
Week 14 11/16 – 11/20	5.3, 5.4	5.4	5.5	Recitation Quiz 12	5.6
Week 15 11/23 – 11/27	5.7	5.8	Test Four Review	Thanksgiving Holiday	Thanksgiving Holiday
Week 16 11/30 – 12/04	Review for Final Exam	**Test Four**	Review for Final Exam	Recitation Quiz 13	Review for Final Exam
Finals Week	***Final exam*** *?????* *Time/place ???*				

Criteria for grading and grading standards

Quizzes: Quizzes are worth 20% of your final grade. Your lowest 3 quiz scores will be dropped.

EWA Homework: Your homework average is worth 6% of your final grade.

Tests: Your test average is worth 40% of your final grade. If your final exam grade is higher than your lowest test grade your final exam grade will replace your lowest test grade.

Final exam: The final is a group final with all other sections of this calculus class. Your final exam is worth 34 % of your final grade.

Total points	Letter grade
85-100	A
75-84	B
65-74	C

55-64	D
0-54	F

If online course, assignment/exam proctoring options: This is not an online course.

If graduate level course being co-taught with undergraduate, separate section on graduate level requirements (e.g., readings, performances, assessments): There is no graduate level class being co-taught with this class.

Statement on student conduct:

The Student Code of Conduct is available online at

http://www.uno.edu/studentaffairs/

by searching for "Student Code of Conduct". You should read and understand it.

The university has the legal right and moral obligation to establish reasonable rules for academic and personal conduct and to deny admission to applicants or continued enrollment to students who do not meet or maintain these standards. The university does, in addition, reserve the right to review any action taken by civil or student accountability authorities regarding UNO students or student organizations. Special conditions such as counseling and/or sanctions may be imposed on students or student organizations that are found in violation of these standards.

In general, in class you should be respectful of other students and of the teacher, and behave in an appropriate manner. That is, remain quiet unless there is a class discussion, raise your hand if you have a question, and not talk at the same time other people are talking.

Students may not make any audio or video recordings of lectures without the express written permission of the instructor.

Standard statement on academic integrity:

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at http://www.uno.edu/studentaffairs/.

Standard statement on accommodations for students with disabilities:

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to http://www.ods.uno.edu/

Description of what the class will be like, including how the class will be taught and why:

On non-recitation days, the class will be taught in a lecture format, with questions from students being encouraged. College students are expected to be mature enough to profit from the teaching style, and to be aware of the responsibilities they have to be successful under this format.

We will cover at a minimum the following material.

Chapter 0: Preparation for Calculus
   0.1: Graphs and Models: 57 – 61 odd.
   0.2: Linear Models and Rates of Change: 21, 27, 37, 39, 49, 55.
   0.3: Functions and Their Graphs: 1, 7, 17, 21, 23 – 31 odd, 47, 63 – 69 odd.

Chapter 1: Limits and Their Properties
   1.1: A Preview of Calculus: 7.
   1.2: Finding Limits Graphically and Numerically: 3, 5, 7 – 25 odd.
   1.3: Evaluating Limits Analytically: 11, 21, 25, 29, 31 – 39 odd, 47 – 53 odd, 57, 59, 63 – 71 odd, 83, 89, 115 – 119 odd, 122.
   1.4: Continuity and One-Sided Limits: 1 – 23 odd, 27, 31 35, 39, 43, 47, 51, 55, 59, 63, 87, 89, 95, 97, 103, 105, 113,

115.
   1.5: Infinite Limits (full details): 1, 7, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45.

Chapter 2: Differentiation
   2.1: The Derivative and the Tangent Line Problem: 7, 11 – 23 odd, 33, 37, 53, 75, 77, 85, 87, 95.
   2.2: Basic Differentiation Rules and Rates of Change: 3 – 23 odd, 31 – 61 odd, 99, 115.
   2.3: Product and Quotient Rules and Higher-Order Derivatives: 7, 11, 15, 25, 29, 33, 37, 41, 45, 49, 59, 69, 71, 73, 77, 99, 101.
   2.4: The Chain Rule: 7, 11, 15, 19, 23, 27, 31, 43, 47, 51, 55, 59, 63, 67, 71, 85, 89, 125, 127.
   2.5: Implicit Differentiation: 2, 6, 7, 10, 18, 21, 33, 34, 37, 39.
   2.6: Related Rates: 11, 17, 21, 25, 29.

Chapter 3: Applications of Differentiation
   3.1: Extrema on an Interval: 17 – 35 odd.
   3.2: Rolle's Theorem and the Mean Value Theorem: 9, 13, 17, 37, 41, 45, 65, 67.
   3.3: Increasing and Decreasing Functions and the First Derivative Test: 5 – 15 odd, 21 – 37 odd, 43, 47, 83.
   3.4: Concavity and the Second Derivative Test: 3, 9, 13, 15, 19 – 23 odd, 29, 33, 37, 41.
   3.5: Limits at Infinity: 15 – 37 odd.
   3.6: A Summary of Curve Sketching: 9, 11, 15 – 19 odd, 23, 59.
   3.7: Optimization Problems: 3, 7 – 15 odd, 25, 35.
   3.8: Newton's Method: 1, 3, 7, 13.
   3.9: Differentials: 5, 13, 29.

Chapter 4: Integration
   4.1: Antiderivatives and Indefinite Integration: 11 – 29 odd, 35, 39, 53.
   4.2: Area: 1, 25, 29, 33, 37, 39, 61.
   4.3: Riemann Sums and Definite Integrals: 7, 27, 31, 33, 41, 43.
   4.4: The Fundamental Theorem of Calculus: 7, 9, 13 – 17 odd, 21, 23, 27 – 35 odd, 39, 41, 45, 47, 51.
   4.5: Integration by Substitution: 7, 9, 13 – 17 odd, 21, 25, 33, 35, 49, 53, 55, 59, 69, 71.
   4.6: Numerical Integration: 11, 17, 23 – 29 odd.

Chapter 5: Logarithmic, Exponential, and Other Transcendental Functions
   5.1: The Natural Logarithmic Function: Differentiation: 37 – 63 odd, 73, 79 – 83 odd, 89 – 93 odd.
   5.2: The Natural Logarithmic Function: Integration: 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 49 – 55 odd, 89, 91.
   5.3: Inverse Functions: 23 – 27 odd, 63, 67, 92.
   5.4: Exponential Functions: Differentiation and Integration: 1 – 11 odd, 33, 37, 41, 45, 49, 53, 91, 95, 99, 103, 107, 111, 115.
   5.5: Bases Other than e and Applications: 37, 41, 45, 49, 53, 57, 63, 65, 71, 75, 79.
   5.6: Inverse Trigonometric Functions: Differentiation: 39, 43, 47, 51, 55, 77, 101?.
   5.7: Inverse Trigonometric Functions: Integration: 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45.
   5.8: Hyperbolic Functions: 7, 17, 23, 27, 31, 45, 49, 53, 57.

It is important to attend recitation days as well as usual lecture days. Recall that the attendance policy penalizes you if you miss lecture and/or recitation days. The structure of recitation sections is as follows:
- The first recitation section can be used to answer questions and provide students with help using their calculators. Students should buy calculators on the first day (see special procedures below for a list of criteria for calculators) so that they can ask questions on the recitation day.
- If a quiz is to be given, the recitation section will start with questions from students. Then the quiz is administered and picked up. The TA may discuss the solutions to the quiz after it is collected, or the instructor or TA may discuss the solutions after the quizzes have been graded, no later than one week after the quiz has been administered.
- If it is a final or midterm review day, solutions to any practice final or midterm can be gone over, as well as covering questions from students.

Description of instructor expectations of students (e.g., reading assignments prior to class, arriving on time,

remaining for full class session, participation in discussions, etc.)

(i) Students are expected to read the textbook. Before the quiz on a subject, you should have read that subject thoroughly in the textbook. Some material will be in the textbook and not covered by class lectures, so you must make every effort to stay up to date with your readings.

(ii) You are expected to attend class lectures and recitation days. Some material will be covered in class lectures and which does not appear in the textbook, so you must make every effort to attend class, listen to lectures, take appropriate notes, and ask questions when you do not understand something.

(iii) Provided you are up to date with readings from the textbook, you are expected to ask questions, either in class or in office hours, when you do not understand something. If it seems like a long question, consider waiting until the recitation day and/or office hours. If the instructor believes it is too disruptive fully to answer your question, you might be referred to office hours. The instructor will occasionally ask questions of the students in class, in order to assess their comprehension of topics and to engage the class in a conversation.

(iv) You should do all assigned homework exercises. You should try to do them as early as you reasonably think you can. Your success in the class will depend upon your ability to do homework problems, since quiz, midterm, and final problems are based on those.

(v) You are expected to arrive in class on time and to stay until class ends.

(vi) You will be writing frequently in this class. You are expected to communicate using complete English sentences and to follow appropriate rules of grammar.

(vii) You are expected to purchase the textbook for the class.

(viii) You are expected to have a calculator. See the next section for rules,

Description of special procedures for this class (e.g., laboratory rules):
You will need a calculator for this class. It should have the ability to:
- Graph a function
- Solve simple equations
- Numerically find derivatives
- Numerically find integrals

It should not
- Have cell phone and/or internet and/or bluetooth capabilities.
- Have video and/or audio recording capabilities.
- Make too much noise.

If it can "talk" to other calculators, the function needs only to be able to work if the calculators are directly next to each other and/or if they are plugged into each other. A specific list of potential calculators you might consider can be found at https://apstudent.collegeboard.org/apcourse/ap-calculus-bc/calculator-policy
if you only look at the ones with an asterisk by them (as others do not have all capabilities.)

In particular, standard online retailers seem currently to have:
- Casio FX-9750GII for under $40.
- HP 39GS for under $55.
- TI-84 for under $90.
- Sharp EL-9900 for under $100.

with some obsolete older or used models being much cheaper (under $20) if you look around.

Note that (unless otherwise stated for a specific problem) all work for problems should look like it were "done by hand" and you will not receive any points for a "naked" answer with no supporting work. The ideal use of a calculator in this setting is to get a quick overview of the problem and/or verify if the work you did was correct. You still need supporting work.

Advice on how to read/approach materials, how to study for tests/exams:
The best and most important advice is TO FOCUS ON UNDERSTANDING CONCEPTS AND UNDERSTANDING

WHAT YOU ARE DOING. Don't just try to memorize the "problem of the day" in the textbook! Instead, try to make sure you understand what you are doing and what things mean.

Read the textbook and class notes, do all homework, look at all previous quizzes/tests, and look at the practice test if one is provided.

Statement on incomplete or late coursework, extra credit, etc.:

Extra credit will not be given under any circumstances.

You should make every effort not to miss a quiz and/or test.

Missed quiz: If you miss a quiz with an excused absence, the average of your other quiz scores will be entered in for the missing quiz. Please be able to document your excused absence. This can happen at most 2 times. After that, you will have to use your "drop lowest quiz score" option for further missed quizzes, even if they are excused, unless you can find a way satisfactorily to document why you are missing so many quizzes.

Missed midterm and/or final: If you will miss a midterm and/or final and have an excused absence, please communicate this to your instructor as soon as possible. It is vital that the instructor has as much notice as possible in this case. Please make every effort not to miss midterms and/or finals. If this occurs, the instructor will try to schedule a makeup midterm and/or final. Missed finals are particularly time-sensitive, since final grades for the course are due soon after finals and if you delay the grade deadline will already have passed. Be sure to come with your doctor's note and/or letter from employer, or other documented excuse.

Information on student support services (e.g., Learning Resource Center, Library): You can go to the Math Tutor Center for help with your math classes. It is in Mathematics Building 105. You are encouraged to ask questions in the recitation hour. Finally, EWA often has help and/or hints for individual problems.

Important Dates*

Last day to adjust schedule w/out fee..........................08/18/2015
Semester Classes Begin 08/19/2015
Last day to adjust schedule w/fee,
or withdraw with 100% refund 08/25/2015
Last day to apply for December commencement 09/25/2015
Final day to drop a course or resign 10/14/2015
Mid-semester examinations 10/05-10/09/2015
Final examinations..12/07-12/11/2015
Commencement 12/18/2015
*Note: check Registrar's website for Saturday and A/B sessions, and for items not listed here: http://www.registrar.uno.edu

Fall Semester Holidays

Labor Day 09/07/2015
Mid-semester break...10/15-10/16/2015
Thanksgiving 11/26-11/27/2015

Withdrawal Policy – Undergraduate only

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates on the Registrar's website, http://www.registrar.uno.edu. Please consult The Bulletin for charges associated with dropping and adding courses.

Incomplete Policy – Undergraduate only

The grade of I means *incomplete* and is given for work of passing quality but which, because of circumstances beyond the student's control, is not complete. The issuance of the grade of I is at the discretion of the faculty member teaching the course. For all graduate and undergraduate students, a grade of I becomes a grade of F if it is not converted before the deadline for adding courses for credit (as printed in the Important Dates Calendar) of the next

regular semester including summer semester.

Repeat Policy

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student's Dean gives prior approval for documented extenuating circumstances.

Graduate Policies

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the Graduate Student Handbook: http://www.uno.edu/grad/documents/GraduateStudentHandbook2014.pdf

Academic Dishonesty Policy

http://www.uno.edu/student-affairs-enrollment-management/documents/academic-dishonesty-policy-rev2014.pdf

Safety Awareness Facts and Education

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://www.uno.edu/student-affairs-enrollment-management/
UNO Counseling Services and UNO Cares
UNO offers care and support for students in any type of distress. Counseling Services assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. Find out more at http://www.uno.edu/counseling-services/. First-year students often have unique concerns, and UNO Cares is designed to address those students succeed. Contact UNO Cares through http://www.uno.edu/fye/uno-cares.aspx.

Emergency Procedures

Sign up for emergency notifications via text and/or email at E2Campus Notification: http://www.uno.edu/ehso/emergency-communications/index.aspx. All emergency and safety procedures are explained at the Emergency Health and Safety Office: http://www.uno.edu/ehso/.

Diversity at UNO

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university's efforts towards creating an environment of healthy respect, tolerance, and appreciation for the people from all walks of life, and the expression of intellectual point of view and personal lifestyle. The Office of Diversity Affairs promotes these values through a wide range of programming and activities. http://diversity.uno.edu/index.cfm

Learning and Support Services

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the Learning Resource Center in LA 334, or learn more at http://www.uno.edu/lrc/.

Affirmative Action and Equal Opportunity

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO's compliance with federal and state regulations regarding EEOC in its Policies and Resources website: http://www.uno.edu/human-resource-management/policies.aspx