Course:

Lecture: MTWR 10:00–11:50, LANG 310
Final Exam: Fri., Aug. 12, 2011. 10:00–12:00

**Instructor:** Roel Morales

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Web Page: http://www.math.unt.edu/~rmorales
Office Hours: MTWR 9:00–10:00, 12:00–1:00 and by appointment

**Prerequisites:** MATH 1710 or equivalent.

**Course Description – MATH 1720:** 3 hours. Differentiation and integration of exponential, logarithmic and transcendental functions; integration techniques; indeterminate forms; improper integrals; area and arc length in polar coordinates; infinite series; power series; Taylor’s theorem.

**Course Objectives:**

- Integrate and differentiate exponential, logarithmic and transcendental functions.
- Apply various techniques of integration such as integration by parts, partial fractions, and trigonometric substitution.
- Determine the convergence and divergence of improper integrals
- Be able to apply various tests to determine the convergence or divergence of various infinite series.
- Recognize various power series and find radius of convergence and apply Taylor’s Theorem.

**Grading Policy:**

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<th>Grade</th>
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<tr>
<td>A</td>
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Daily work: 15%  Exams 1–3: 20%  Final Exam: 25%
Daily Work: Daily work consists of homework and quizzes. Homework will be assigned on a daily basis. Discussion of some homework questions will take place in class. However, given the limited time in class you should try to get all or most of your questions answered outside of class during office hours. Late homework will not be accepted (unless it is the result of an officially excused absence). There will be 3 homework grades that are dropped. Quizzes will be given every week or two in class. There will be NO make-up quizzes if you miss class unless you have a University Excused Absence. Some quizzes may or may not be announced so it is imperative that you keep up with your homework.

Exams: There will be 4 in-class exams, 3 ‘midterm’ exams and a final. No make-up exams will be given without an official, written, university excuse. In case of illness, you MUST contact me within ONE working day of the missed exam. The final exam will be comprehensive.

Homework Expectations: The purpose of homework is to give you practice doing problems and to provide you with feedback on your work. For the homework grader to evaluate your work, you must do your homework neatly and in an organized manner. Homework which is sloppy or difficult to read will not be graded. All homework assignments should be stapled if more than one page is used, otherwise 10 percent will be deducted from the grade of the assignment. Since more than one assignment will be due on the same day do not staple the assignments together.

Calculator Policy: While you may use a calculator on your homework, you will not be able to use a calculator on any exams or quizzes. Start memorizing your special angles for your trig functions if you have forgotten them.

Classroom Expectations: I expect that everyone will maintain a classroom atmosphere conducive to learning. Everyone is expected to behave with basic politeness, civility, and respect for others. In particular, there should be no talking in class unless it is part of class discussion or in-class work. Private communications such as texting are not allowed, especially during tests. Reading extraneous materials, using electronic equipment, or sleeping is not permitted either.

Makeup Policy: If you are not able to turn in an assignment or take an exam because of an unexcused absence, you will not be able to turn the assignment in late or take the exam.

If you miss an exam or assignment, an excuse maybe be granted if it is a University excused absence, an emergency, personal illness, or other special circumstances. An exam maybe be taken prior to the scheduled date provided they provide a written request at least a week ahead of the scheduled exam date if the student knows he/she will not be able to take the exam on the scheduled day.

If you miss an exam it is your responsibility to contact me immediately, not at your leisure. Notification is almost always possible immediately upon occurrence of an emergency. Failure to make such timely notification may result in denial of your request for an excused absence.

Academic Dishonesty: Academic dishonesty, in any form, is not permitted and will dealt with in accordance with university and departmental policy.
Academic Rights and Responsibilities: For your rights and responsibilities see the webpage http://www.unt.edu/csrr

Disabilities: It is the responsibility of students with certified disabilities to provide the instructor the appropriate documentation from the Dean of Students Office. Please see me within the first week of class and in private, if this applies to you.

Student Evaluations: All Math Department Teaching Fellows will have their classes do teaching evaluations for their class online. I will inform you when the evaluations at evaluate.unt.edu are available. The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class. Please let them know that the spring administration of the SETE, will remain open through the week of finals. SETE will be available online at my.unt.edu. The syllabus is subject to change as the instructor deems necessary. Any changes will be announced during class.

Tentative schedule

- Week 1
  - Day 1: Syllabus, 7.1: Inverse Functions, 7.2: Natural Log & Exponential functions
  - Day 2: 7.3: Other logs & Exponentials, 7.4: Exponential Models, 7.5: Review of Inverse Trig Functions
  - Day 3: 7.5: Derivatives and Integrals involving inverse trig functions, 7.6: L’Hopital’s Rule with exponentials, 8.1: Integration by Parts
  - Day 4: 8.1: Integration by Parts, 8.2: Trig Integrals
- Week 2
  - Day 5: 8.2: Trig Substitution, Review for Exam 1
  - Day 6: Exam 1
  - Day 7: 8.2: Trig Substitution, 8.3: Partial Fraction Decomposition
  - Day 8: 8.3: Partial Fraction Decomposition, 8.7: Improper integrals
- Week 3
  - Day 9: 8.7: Improper Integrals, 8.8: Introduction to ODEs
  - Day 10: 9.1, 9.2, 9.3: Basic facts about sequences, infinite series
  - Day 11: More infinite series, Review for Exam 2
  - Day 12: Exam 2
- Week 4
• Day 13: 9.4: p-series, Integral test
• Day 14: 9.5: Ratio, root and comparison tests,
• Day 15: 9.5: Ratio, root and comparison tests, 9.6: Alternating series
• Day 16: 10.1: Taylor Polynomials, Review for Exam 3
• Week 5
• Day 17: Exam 3
• Day 18: 10.2: Power Series, 10.3: Taylor Series
• Day 19: 10.3, 10.4: Taylor Series
• Day 20: Review for Final Exam
• Day 21: Final Exam