NORTH CAROLINA STATE UNIVERSITY
Department of Mathematics
MA 141: Distance Education

To: MA 141-601 Students, Spring 2020
From: Dr. John Griggs (**https://jrgriggs.wordpress.ncsu.edu**)

Welcome to MA 141! I sincerely hope you have a positive learning experience using the taped lectures. I trust that you will contact me when you need my help. The three ways to reach me are via fax (919-515-0671), through my email (jrgriggs@ncsu.edu), or by phone (919-608-9726; I'm not very good with phone messages, though). Please **identify yourself as a MA 141 distance education student**. If you are asking a question about a specific problem, clearly identify the problem/section and write out or type out all of your steps so I can try help you find your mistake, if there is one. A teaching assistant will also be available for your questions; your TA is **Ethan Scheper (eschepe@ncsu.edu)**. If you have mediasite problems, please notify DELTA Support Services (515-9030).

The videos were taped during the Fall '16 semester (15 week-session) in a studio/classroom on campus. The textbook for this course is Calculus I for Engineers and Scientists, by Franke, Griggs and Norris. It is an e-book and is housed on WebAssign. You will pay one fee that covers both the WebAssign homework and the e-book. We have been working on this book for four years; please read it and study the examples.

The tests are given at the **DELTA Testing Center** here in Raleigh on Centennial Campus. You will be given a two-day testing window; you choose the day/time that they are open that best suits your schedule and make an appointment. If you live more than 50 miles from NCSU, please contact **me (not DELTA)** immediately so we can arrange for a mutually agreeable proctor at a local community college, university or testing center. The proctor should be faculty, preferably in the Mathematics Department; no libraries/librarians. Please send me the **name, title, and email address** of the prospective proctor when you have identified that person so I can contact him/her and send out the proctor agreement form.

Final average: **60% Test Average**; **30% Final Exam**; **10% Webassign Homework**

A "built-in" curve for all students is to replace your one lowest test grade with the final exam grade if it is higher. If you miss a scheduled test without a University's excused absence (illness with doctor's documentation, etc.) then your exam grade will replace 1 missed test. Please keep in mind, though, that the final exam will count at least 30% of your grade in the course. It could potentially count more if it replaces a lower test grade. Maple is not a part of the distance education course for MA141 nor MA241.

TEST DATES:

DELTA Testing Center or with remote proctor:

Test 1: Jan 29 or Jan 30 (75 minutes)
Test 2: Feb 21 or Feb 24 (75 minutes)
Test 3: Mar 24 or Mar 25 (75 minutes)
Test 4: Apr 15 or Apr 16 (75 minutes)
Final Exam: Apr 29 or Apr 30 (3 hours)

Homework will be delivered/submitted over the web using Webassign: http://webassign.ncsu.edu . Please contact me or the TA when you need help. The answers to the odd problems are at the end of each section. I have tried to work lots of similar problems in class. Please note the "communication" of the step-by-step process. Your work on your tests communicates your mathematical understanding of the concepts. Take good class notes. Work additional problems from each section; just the webassign by itself is not enough to prepare for excellence.

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MA 141 – 601
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PACING GUIDE:

Monday, January 6 through Tuesday, January 28:

Textbook coverage: Chapter 0 (all); Chapter 1 (all) (lecture #1 – lecture #15)

Test #1: Wednesday, January 29, or Thursday, January 30

Thursday, January 30 through Thursday, February 20:

Textbook coverage: Chapter 2 (all) (lecture #16 – lecture #30)

Test #2: Friday, February 21, or Monday, February 24

Monday, February 24 through Monday, March 23:
(Spring Break on campus: March 9 - 13)
Textbook coverage: Chapter 3 (all) (lecture #31 – lecture #45)

Test #3: Tuesday, March 24, or Wednesday, March 25

Wednesday, March 25 through Tuesday, April 14:

Textbook coverage: Chapter 4 (all); Chapter 5 (5.1, 5.2: disk/washer)
(lecture #46 – lecture #59)

Test #4: Wednesday, April 15, or Thursday, April 16

Thursday, April 16 through Tuesday, April 28:

Textbook coverage: Chapter 5 (5.2: cylindrical shell); review entire textbook for final exam (lecture #60 - #63 for new material; lecture #1 - #63 for final exam)

<u>Comprehensive</u> Final Exam: Wednesday, April 29, or Thursday, April 30

Math WebAssign Student Help Sheet

1. Log In

You can do these assignments on any computer provided that you have Internet Access with Netscape Navigator 4.0 or higher or Internet Explorer 5.0 or higher. If you are doing this from home, go to step 3. If you have logged into the campus system before, then your login ID and password is the same as before. If this is your first time logging in, then your login ID is generally the first letter of your first name, 1st letter of your middle name and the first 6 letters of your last name unless you have been told otherwise. If your name was John Michael Doe, your login ID would be *jmdoe*. Do not use spaces or upper case letters in your login ID or password. Your password is your student ID # (no dashes).

If you have any problems logging in to UNIX, see the lab consultant in HA 244 or if a consultant is not available, call a consultant at the Hillsborough Building at 515-3035. They can answer questions regarding your login ID and your password ONLY.

2. Open Netscape or Internet Explorer

If you are using the NSCU UNIX system, click on your middle mouse button to pull up a menu called "Application Menu". Choose "Netscape Web Browsers" and **wait** for it to load. IF a gray window pops up with the options "Accept" or "Do not accept", **choose "Accept**". If you are at home, you will need an internet connection. If you have one, you can use either Netscape or Internet Explorer.

3. Start your Assignment

In your Internet browser, there is a box at the top labeled "Net Site" or "Address". Inside that box type:

http://webassign.ncsu.edu

Click on the link Continue Login, this will bring up a prompt to type in your login ID and your password. This will bring you to the Assignments Summary page. Begin your assignments by clicking on the name of your assignment. Type in your answers and click the submit button at the bottom of the page. If you get a red X next to an answer that means it is wrong. You can change the answer and re-submit anytime before the due date.

4. Log Out

After you finish your assignments, remember to close your web browser (Netscape/Explorer). If you are on a UNIX computer, type *logout* in the brown window labeled "xterm".

If you need help, come to the Math Multimedia Center in SAS Hall 2105. Tutors and Video taped courses are available. The phone number is 515-3157.

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Objectives MA141
Spring 2020

I. Recognize and graph equations for conic sections and for parametric equations.

II. Conceptual and visual representation of limits, continuity, differentiability, and tangent line approximations for functions at a point. (Use Maple to find limits, automated differentiate, and use the limit-definition of derivative to differentiate.)

III. Apply the limit theorems, the Squeeze Theorem, left and right limits, and limits involving infinity and L'Hospital's Rule.

IV. Approximate roots of an equation using Intermediate Value Theorem and Newton's Method. (Use Maple to find exact solution to equations and to approximate roots via Newton's Method)

V. Apply the power rule, product rule, quotient rule and the chain rule to functions explicitly and implicitly for finding derivatives.

VI. Use derivatives in practical applications, such as distance, velocity, acceleration and related rates. Use first and second derivative tests to optimize functions and to find critical numbers, inflection points, extreme points, and the shape of the graph.

VII. Sketch a possible graph of a function given the graph of its derivatives.

VIII. Antidifferentiate basic functions, use Riemann Sums to estimate areas under the curve, and apply Fundamental Theorem of Calculus to evaluate definite integrals.

Note: There is a brief review of precalculus, including algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions including construction of new functions from old.