

## **Fall, 2016**

**CLASS:** MAT 161-001 8-8:50 MWF OS 2004 & TR OS 2006

MAT 161-003 10-10:50 MWF OS 2003 & TR OS 2006

**INSTRUCTOR:** Dr. Kenneth Gurganus ([gurganus@uncw.edu](mailto:gurganus@uncw.edu)) **OFFICE:** OS 2016B **PHONE:** 962-3297

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**Required TEXT:** Stewart 8<sup>th</sup> Edition: Calculus Early Transcendentals(loose leaf version) with WebAssign is highly recommended and available in the UNCW bookstore. The ISBN for this package is 978-1-305-6166-91. Students can also purchase their course materials directly from Cengage at the following site:

<http://www.cengagebrain.com/shop/isbn/9781285741550> . There you have the option of purchasing the hardcover edition, renting the text or purchasing the eBook in the book's entirety or chapter by chapter.

At the UNCW bookstore, the text is bundled with a **WebAssign** access code. You will need this access code if you choose to use this product. If you buy the text alone, an access code can be purchased on-line at [www.webassign.com](http://www.webassign.com) .

When registering on-line you will need the class key: **uncw 7157 2459** .

The advantages of **WebAssign** include an ebook version of the text with a robust online homework and tutorial system. (Another option is that you can purchase online just **WebAssign** for Stewart and use the ebook alone without a printed text.) Note: **WebAssign** will be a useful tool to assist you in this course but your course grade will depend directly upon your **WebAssign** work only if your WebAssign homework average improves your homework average.

[www.stewartcalculus.com](http://www.stewartcalculus.com) is a free site that contains homework hints about checked problems in the text.

**Available supplements:** A Student Solutions Manual and a Study Guide will also be available.

### **SYLLABUS with tentative hour test dates:**

Chapters 1-2 .....Friday, September 9

Chapter 3 .....Friday, September 30

Chapter 4 .....Friday, October 28

Chapter 5 & Sections 6.1, 6.4 & 6.5 .....Friday, November 18

Sections 6.2 & 6.3.....(included on final exam)

Final Exam (cumulative):

Section 001 .....Wednesday, December 7, 8-11 AM in OS 2004

Section 003----- Monday, December 5, 8-11 AM in OS 2003

### **Other important dates:**

Wednesday, August 17—first day of classes;

Monday, September 5; Thursday, October 6, Friday , October 7; Wednesday, Thursday & Friday, November 23, 24 & 25----no classes;

Wednesday, August 24—last day to add or drop without grade;

Monday , October 10—last day to withdraw for undergraduates;

Wednesday, November 30—last day of classes;

Thursday, December 1 –Reading Day

The class period before each test will contain a review/problem session.

**Office Hours:** 9:00-9:50 AM MTWRF & 11-11:50 AM TR, and 2-3 MWF with additional times by arrangement. These hours are subject to change during the semester. If you see me and need help regardless of the time, just ask.

**Grading:** Each of the hour tests and the final will be graded on a ten point scale:

90-100 A; 80-89 B; 70-79 C; 60-69 D.

If I feel it is justified, some adjustment downward may be made at times.

“Plus or minus grading may be awarded at the discretion of the faculty [Undergraduate Catalogue].”

The hour test average will count approximately 65% of the final grade and the final exam approximately 25%.

**Homework** will be regularly assigned but generally not collected only because you should do much more homework than I can possibly have graded. You will be notified in advance that some assignments such as Maple lab assignments are to be collected and graded. Other graded assignments of generally no more than one or two problems may be assigned, done, and collected within a single class meeting with or without prior notice. They may be open or closed book assignments. Such assignments along with graded homework will account for approximately 10% of the final grade.

**Attendance** is to be regularly taken and is expected of every student. It is definitely your responsibility to learn all material covered and this can best be achieved by regular class attendance and by keeping up with the daily pace of the class.

**Make-up tests** will not be given unless you have a reason for missing a test that I determine valid. Even then I reserve the option of using the corresponding portion of the final exam for a make-up test. If you know that you will miss a test, let me know before the test if possible. In any case, inform me as soon as possible.

**The final exam** will cover the entire course and will be graded two ways. The entire final exam grade will count approximately 25% of the final grade. If there is improvement over any hour test grade (or homework average), that hour test grade will be replaced by the weighted average of the final exam grade and the test grade with the higher exam grade weighted three times more than the hour test grade.

**Students with Disabilities:** If you have a disability and need reasonable accommodation in this course, you should inform me of this fact in writing within the first week of class or as soon as possible. If you have not already done so, you must register with the Office of Disability Services in DePaolo Hall (extension 7555) and obtain a copy of your Accommodation Letter. You should then meet with me to make mutually agreeable arrangements based on the recommendations of the Accommodation Letter.

**UNCW's Academic Honor Code** applies to all members of the university community. All students are expected to read and abide by the Academic Honor Code that is in the Student Handbook and Code of Student Life.

**Course Catalog Description: MAT 161-162. Calculus with Analytic Geometry (4-4)** Prerequisite: MAT 112 or 115 or equivalent preparation in algebra and trigonometry. Calculus of a single variable intended for students in the mathematical and natural sciences. Functions and limits; differentiation with applications including maxima and minima, related rates, approximations; theory of integration with applications; transcendental functions; infinite sequences and series; conic sections, parametrized curves and polar coordinates; elementary differential equations. Three lecture and two hour laboratory hours each week.

**Course Student Learning Objectives:** Upon completing the MAT 161, students should be able to:

- Use graphical, numerical, analytical and verbal representations of functions, limits, derivatives and integrals.
- Understand the meaning of the derivative in terms of a rate of change and local linear approximation and use derivatives to solve a variety of problems.

- Understand the meaning of the definite integral both as a limit of Riemann sums and as the net accumulation of change and use integrals to solve a variety of problems.
- Understand the relationship between the derivative and the definite integral as expressed in the Fundamental Theorem of Calculus.
- Use correct mathematical syntax to explain solutions in both written and graphic forms.
- Model physical situations using the concepts of calculus.
- Use technology to help solve problems, experiment, interpret results, and verify and communicate conclusions.
- Determine the reasonableness of solutions, including sign, size, relative accuracy, and units of measurement.

***Required Technology in MAT 161 :*** MAPLE is the principal mathematical software used in MAT 161. The departmentally approved and required minimal expectations for computer use in MAT 161 are: graphing and graphical analysis, Newton's Method, Riemann Sums, and linear and quadratic approximations. Technology may clearly be used for additional purposes, including evaluation of definite integrals arising in applications. The text identifies by a special icon those exercises that require some form of technology. Exercises that require the full power of MAPLE are identified in the text by a CAS icon (for computer algebra system). Students will utilize this technology in classroom exercises in OS 2006 and other lab assignments to be completed outside of class. A graphing calculator is advisable, but not required, for this class.

**State Policy on Excused Absences for Religious Observance:** In accordance with North Carolina G.S. 116-11(3a), students are entitled to two excused absences per academic year for religious observances. In order to preserve your right to make up any tests or other work missed for religious observance required by your faith, you must inform the Registrar in writing of your intended absence before the end of the first week of class.