Spring, 2015

CLASS: MAT 162-001 9-9:50 MWF BR 208 & 9-9:50 TR BR 161

MAT 161-300 9-9:50 MWF BR 208 & 9-9:50 TR BR 161 10:00-10:50 M BR 202

MAT 162-002 11-11:50 MWF BR 208 & 11-11:50 TR BR 161

The honors students in MAT 161-300 meet five days a week with MAT 162-001, a regular section of calculus, and one additional time each Monday in a session for honors students only. There is a substantial overlap in the syllabi for the three sections. The differences in the syllabus for the honors section involve meeting time, learning objectives, projects and grading. All differences in the honors section syllabus are highlighted in yellow.

INSTRUCTOR: Dr. Kenneth Gurganus (gurganus@uncw.edu) **OFFICE**: BR 201A **PHONE**: 962-3297

Required TEXT: Stewart 7th Edition: Calculus Early Transcendentals(with WebAssign is highly recommended.) Students can also purchase their course materials directly from Cengage at the following MicroSite: http://www.cengagebrain.com/micro/1-1IAT37N . The cost to the students is ONLY $126.26 for the complete sturdy paperback bounded version of the textbook with WebAssign.

The UNCW bookstore price is $178.70—the ISBN is 978-1-285-93179-1.

If you have WebAssign subscription from last semester for MAT 161, you need not purchase another WebAssign subscription.

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 .

When registering on-line you will need the class key: uncw 8473 1915

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 is a free site that contains homework hints about checked problems in the text.

Available supplements: A Student Solutions Manual and a Study Guide are also available.

SYLLABUS with tentative hour test dates:
Sections 7.1-7.8 .....Thursday, January 29
Sections 8.1-8.3, 8.5.....Wednesday, February 18

Sections 9.1-9.5, 17.1 .....Wednesday, March 4
Sections 11.1-11.11 .....Tuesday, April 14
Sections 10.1-10.6 .....(included on final exam)
Final Exam (cumulative):
Section 001 .....Monday, May 4, 8-11 AM in BR 208

Section 002----------Tuesday, May 5, 11:30-2:30 PM in BR 161

Other important dates:
Monday, Jan. 12—first day of classes;
Monday, Jan. 19; Monday, March 9 through Friday, March 13; Thursday & Friday, April 2 & 3----no classes;
Tuesday, January 20—last day to add or drop without grade;
Friday, February 27—last day to withdraw for undergraduates;
Wednesday, April 29—last day of classes;

Thursday, April 30 –Reading Day
The class period before each test will contain a review/problem session.

Office Hours: 8:30-8:50 AM MTWRF, 10-10:50 TWRF and 2-3 MW 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%. (For the honors section only, the hour test average will count approximately 60 % of the final grade and the final exam approximately 20 % of the final grade.)

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.

Projects: For the honors section, each student will complete two guided projects (in teams of two students) and report the findings in both written mathematical format and in an oral presentation. These projects will count 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% (or 20% for the honors section) 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 MAT 162, students should be able to:

- Use graphical, numerical, analytical and verbal representations of integrals, differential and parametric equations, sequences and infinite series.
- use techniques of integration and differential equations to solve a variety of problems.
- use calculus to understand the properties of conic sections and other curves in polar and parametric form.
- understand convergence properties of sequences and series.
- 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.
- calculus and contribute to group work designed to enhance problem-solving and mathematical communication skills, and
- use technology to combine mathematical and descriptive writing to convey the results of projects involving the history and applications of the guided discovery of calculus concepts.

Required Technology in MAT 162: MAPLE is the principal mathematical software used in MAT 162. The departmentally approved and required minimal expectations for computer use in MAT 162 are: function approximation, convergence, parametric equations, and polar equations. The theme of graphing and graphical analysis is to be continued, and clearly there are other topics that benefit from technology as well, including: direction fields for differential equations, Euler's Method, obtaining error estimates for the trapezoidal rule and Simpson's Rule, obtaining error estimates for series approximations, and graphing position functions for oscillation problems. The text identifies by a special icon those exercises that require some form of technology. Exercises that require the full power of a computer algebra system are identified in the text by a CAS icon. Students will utilize this technology in classroom exercises in BR 161 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.