Instructor: Dr. Xin Lu

Webpage: http://people.uncw.edu/lux/

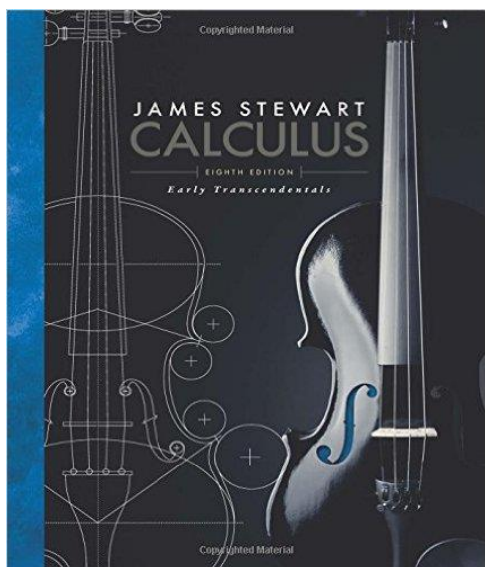**Email:** lux@uncw.edu   **Phone:** 910-962-3673   **Office:** OS1007**L**

Office Hours: M-Th,   1:00PM-2:00PM or by appointment

Rooms: OS2005(MW)-OS2006(TTh)

Time: 3:30–4:35 PM   Monday-Thursday

Text Book and Required Material

- WebAssign

Option 1: 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.

Option 2: If you buy the text alone, an access code can be purchased on-line at www.webassign.com.

Option 3: You can purchase online just WebAssign for Stewart and use the eBook alone without a printed text.

Class Key for registration WebAssign online:
uncw 1779 1169

The advantage of WebAssign includes an eBook version of the text with a robust online homework and tutorial system.

Note: WebAssign will be a useful tool to assist you in this course. It will be used for homework but not in tests and final exam

- Graphing Calculator (TI 83 or 84)

Calculus, Early Transcendental

by James Stewart 8th Edition

Topics(chapters) covered:
7. Techniques of Integration
8. Further Applications of Integration
9. Differential Equations
10. Applications of Differentiation
11. Infinite Sequences and Series
17.1-2. Differential Equations

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.

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. 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.

Homework, Tests and Grading:

- **Tests**: 20% each, 60% in total
- **Homework and quizzes**: 10%
- **Final Exam**: 30%

The final grade will be assigned according to:

$90\% \leq$ **A-**$< 92\%$; $92\% \leq$ **A** $\leq 100\%$;
$80\% \leq$ **B-**$< 82\%$; $82\% \leq$ **B**$< 87\%$; $87\% \leq$ **B+** $< 90\%$;
$70\% \leq$ **C-**$< 72\%$; $72\% \leq$ **C**$< 77\%$; $77\% \leq$ **C+**$< 80\%$;
$60\% \leq$ **D**$< 67\%$; $67\% \leq$ **D+** $< 70\%$;   **F**: below 60%.

Calculus with Analytical Geometry II

Test and Final Exam Dates:

 Test 1:   Monday, February 5

 Test 2:   Monday, Mar 19

 Test 3:   Thursday, April 19

 FINAL EXAM: Tuesday, May 1, 3:00PM – 6:00 PM

Incompletes: A grade of **I** (incomplete) is given only if approved documented circumstances beyond the student's control (e.g. medical, legal) render the student unable to complete the course work, and only if there is a reasonable possibility of passing the course. The grade **I** is not given simply failing to meet the course requirements.

Note: Productive and effective study skills are important. You probably have heard this before, but mathematics is not a spectator sport. Practice solving math problems regularly and checking your answers/work should also increase the likelihood that you can solve similar problems correctly, quickly, and independently. This can also help you determine the difficulty level you may actually have. It may also help you with delegating how much extra study time you may need and/or if you need to receive assistance outside of class. You may not really know, unless you practice the problems and check your answers. When seeking help, please provide any and all attempted work–this can increase the quality of the help you receive, as well as decrease the time.

Attendance: Being on time and regular class attendance are some aspects expected, as well as a respectable presence. Class attendance is one aspect that could help or harm the final grade of a student whose final average is on the borderline between two grades. A student who has **three or less** absences may replace the lowest test grade of the **first two tests by the highest of the three tests and final.** An incomplete test is not replaceable. two or more absences are considered excessive.

Religious Observance Policy: In accordance with North Carolina G.S. 116-11(3a), you are entitled to two excused absences for religious observances per academic year. 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.

Academic Honor Code and Seahawk Respect Compact: Please refer to Section V in your student handbook and Dean of Students' website (http://www.uncw.edu/stuaff/doso/) about Academic Honor Code for the definition and procedures about academic dishonesty offenses. The Seahawk Respect Compact (http://www.uncw.edu/diversity/src.html) expresses the core values essential to an open, respectful learning and working environment.

Disability Services: If you have a disability and require accommodations for this course, you need to inform me of this 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 (EXT. 2-7555) and obtain a copy of your Accommodation Letter. YOU MUST PROVIDE A COPY TO ME. You should then meet with me, as soon as possible, to make mutually agreeable arrangements based on the recommendations of the Accommodation

Letter and resources available. YOU ARE RESPONSIBLE FOR ADHERING TO THE REQUIREMENTS AND PROCEDURES OUTLINED FOR YOU. More information and resources are available at **http://www.uncw.edu/stuaff/disability/.**

The UNCW Statement on Diversity in the University Community: As an institution of higher learning and excellence, the University of North Carolina Wilmington represents a rich diversity of human beings among its faculty, staff, and students and is committed to maintaining a campus environment that values that diversity. Accordingly, the university supports policies, curricula, and co-curricular activities that encourage understanding of and appreciation for all members of its community and will not tolerate any harassment or disrespect for persons because of race, gender, age, color, national origin, ethnicity, creed, religion, disability, sexual orientation, political affiliation, marital status, or relationship to other university constituents.

Zero Tolerance Policy: UNCW practices a zero tolerance policy for violence and harassment of any kind. For emergencies contact UNCW CARE at 962-2273; Campus Police at 962-3184; or Wilmington Police at 911. For University or community resources visit: **http://www.uncw.edu/safe-relate/campusResources.htm**. Violence prevention information and resources are available at **http://www.uncw.edu/safe%2Drelate/**.

Cell Phones, PDAs, Laptops:
Please silence your cell phone and do not make calls, access applications or text during class. If you have a personal, urgent matter for which you need to be on call, please let me know in advance and/or quietly step outside. In addition, please do not have any PDAs or laptops/netbooks/iPads, etc. open or powered on during lectures.

THE UNIVERSITY LEARNING CENTER
        Web address: www.uncw.edu/ulc
DePaolo Hall 1056 & 1003, 1st floor **Tel:** 910.962.7857

The University Learning Center's (ULC) mission is to help students become successful, independent learners. Tutoring at the ULC is NOT remediation: the ULC offers a different type of learning opportunity for those students who want to increase the quality of their education. ULC services are free to all UNCW students and include the following:
 ❖ Learning Services
 ❖ Math Services
 ❖ Study Skills
 ❖ Writing Services.
The ULC's hours are shorter at the beginning of the semester, during exams, and during the summer, but typically the ULC is open.

Emergency Hotline: (910) 962-3991 or toll free (888) 657-5751