**Fall 2012**
**MCCC – MAT 201 RC Calculus II**
**Monday - Wednesday 7:10–9:00 PM**
**Room: PH 302**

**Instructor: Paul Winterbottom**
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**Office: PH 16**

Office Hours: Mon - Wed 12:10 - 1:15; Tue - Thurs 2:30 – 3:00 PM

**LAL** Tuesday - Thursday 1:30 – 2:30

**Policies**:
1. There are no make-up exams or quizzes!
2. I will sign a withdrawal slip up until the last class.
3. Students are expected to attend every class!
4. If a test is missed, the lowest test will count as two tests and the highest grade a student can receive, in this case, is a "C

**Textbook:** *Calculus*, Larson, Hostettler, Edwards, Houghton Mifflin, 9th edition, 2010
TI-84+ Graphing calculator is needed for this course. If a student has a TI-83+, they do not need to buy a TI-84+.

**Catalogue Description:**

This is the second course in the calculus sequence. It is designed primarily for students who will major in mathematics, science, engineering, or business. Topics include differentiation and integration of exponential, logarithmic, trigonometric, and hyperbolic functions, integration techniques, improper integrals, sequences, series, Taylor's formula, L'Hopital's rule, and applications. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

**Prerequisites**: MAT 190 with a minimum grade of "C"

**LEARNING OBJECTIVES**

Upon completing this course, students should have the following knowledge and skills.
1. apply knowledge of integrals to finding volumes of solids of revolution.
2. differentiate and integrate many logarithmic, exponential, inverse trigonometric, and hyperbolic functions.
3. use a number of integration techniques including integration by parts, integration by partial fractions, and integration by trigonometric substitution.
4. know and be able to use L'Hôpital's Rule and be able to evaluate improper integrals.
5. determine the convergence or divergence of series, including power series.
6. find a Taylor series and to use Taylor's Formula with Remainder.
7. use the TI-84 Plus graphing calculator in relevant Calculus II concepts.

**A few words about your responsibilities:** As teachers our job is not only to teach you the subject matter, but to prepare you for your entry into the working world. As a student in this class, it is your job to be responsible for yourself. Just as in the working world, if you do not show up to work, you do not get paid. As in the working world, you have deadlines and due dates, and so you will in this and all other courses. Please do not hesitate to contact me if you feel you are struggling with the course material. Use the Learning Assistance Lab in College Hall 320, my office hours, or your fellow classmates as resources to help facilitate your learning in this class. Mathematics is best learned by DOING. Keep up with the work on a consistent basis and that should help translate into having a successful term in this class.

**SEQUENCE OF TOPICS**

| Week | Section in Text | Topic |
|---|---|---|
| 1-2 | 5.1-5.6 | Logarithmic and exponential functions; growth and decay |
| 3 | 5.8-5.10 | Inverse trigonometric functions and hyperbolic functions |
| 4 | | Review and Test I |
| 4-5 | 7.2-7.4 | Volumes of solids of revolution; arc length |
| 6-7 | 8.1-8.4 | Techniques of integration |
| 8 | | Review and Test II |
| 8-9 | 8.5-8.6 | More techniques of integration |
| 9-10 | 8.7-8.8 | Indeterminate forms and L'Hôpital's Rule; improper integrals |
| 11 | | Review and Test III |
| 11-13 | 9.1-9.10 | Infinite series |
| 14 | | Review and Test IV |

**Grading**:

There will be 4 exams, 9 quizzes, and a final exam, each worth 100 points. If a student has attended every class and your final exam is higher then your lowest test grade then that test grade will count only 50 points and the final exam will count 150 points. Your quiz grade will consist of both in-class and take home quizzes. The top eight quizzes will count towards 80 points of your quiz grade and the final 20 points will come from class participation and attendance. None of the take home quiz grades will be dropped. If a test is missed, your lowest test score will count twice. In this case the highest grade a student can receive is a "C."

**Evaluation Of Grades:**

| | | |
|---|---|---|
| 92-100 = A | 82-87 = B | 70-77 = C |
| 90-91 = A- | 80-81 = B- | 60-69 = D |
| 88-89 = B+ | 78-79 = C+ | Below 60 = F |

**Classroom Policy**

1. Casual talking during class is not permitted, as it is a sign of disrespect toward the professor and other students. Students who engage in conversations will receive only one warning. If talking persists, the students' grades will be lowered by ONE GRADE LEVEL and he/she will be referred to the Dean's Office for further disciplinary action.

2. If you are late to class, you must take a seat at the back of the room. Do not come to the front of the room once the lecture has started.

3. All cell phones must be turned off in the classroom.

4. **Missing the Final Exam will result in an automatic "F" for the course**.

5. All quizzes are taken at the end of class.