Calculus II, Spring 2017, 10412, MAT K256, Thursday from 6:30 – 9:59, room D109
Professor Tony Baker

Pre-requisite: Calculus I, MAT 254

Text: Calculus, Early Transcendentals by James Stewart, 8 E

Course description: The course is continuation of Calculus I. The topics include: areas, volumes, techniques of integration, applications of integration, parametric equations and polar coordinates, vectors and operations on vectors, sequences and series

Measurements: Participation - 10%, 3 tests, each – 20%, and final exam - 30%.
Grade equivalents: A 93 – 100, A- 90 – 93, B+ 87 -89, B 83 – 86,
B- 80 – 82, C+ 77 – 79, C 73 – 76, C- 70 – 72, D+ 67 – 69. D 63 – 66,
D- 60 – 62, F below 60, N if the student completed less than 60% of work

Attendance: It is very important that you attend **ALL** classes. Your attendance in the classroom, participation in classroom work /projects and preparation for each class is required and is essential to your success in the course.

Support Services: Tutorial services. Meeting with me for an extra help.

Office Hours: M, R 4:00pm to 6:00pm (by appointment only) **Room D205**
E-mail Padrick77@gmail.com

Class Cancellation: In case of increment weather, check the college website for class cancellations or call 860-215- 9000 for recorded message on the college phone.

Plagiarism and Academic Honesty:
At TRCC, we expect the highest standards of academic honesty. The Board of Trustees' Proscribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism.

Alert System: MyCommNet Alert is a system that sends text messages and emails to anyone signed up in the event of a campus emergency. Additionally, TRCC sends messages when the college is delayed or closed due to weather. All students are encouraged to sign up for MyCommNet Alert. A tutorial is available on the Educational Technology and Distance Learning Students page of the web site(see the link below).

http://www.trcc.commnet.edu/div_it/educationaltechnology/Tutorials/myCommNetAlert/MIR3.html

Disabilities :   If you have a disability that may affect your progress in this course, please meet with a Disability Service Provider (DSP) as soon as possible. Please note that accommodations cannot be provided until you provide written authorization from a DSP.

<table>
<tr><td colspan="2" align="center">College Disabilities Service Provider</td></tr>
<tr><td>Matt Liscum, Counselor

(860) 215-9265

Room A113</td><td>Learning Disabilities
ADD/ADHD
Autism Spectrum
Mental Health Disabilities</td></tr>
<tr><td>Elizabeth Willcox, Advisor

(860) 215-9289

Room A113</td><td>Medical Disabilities
Mobility Disabilities
Sensory Disability</td></tr>
</table>

Digication Statement: All students are required to maintain an online learning portfolio in Digication that uses the college template. Through this electronic tool students will have the opportunity to monitor their own growth in college-wide learning. The student will keep his/her learning portfolio and may continue to use the Digication account after graduation. A Three Rivers General Education Assessment Team will select and review random works to improve the college experience for all. Student work reviewed for assessment purposes will not include names and all student work will remain private and anonymous for college improvement purposes. Students will have the ability to integrate learning from the classroom, college, and life in general, which will provide additional learning opportunities. If desired, students will have the option to create multiple portfolios

Course Outline, Schedule, Homework (Odd numbers. This is a guide only. Assignments and schedules may vary).

Thursday		
1/19/2017	Review of the syllabus	
1/26/2017	5.2 The definite Integral	389/ 17-19, 33, 47 - 53
	5.3 The Fundamental Theorem of Calculus	399/ 3, 19 – 37
	5.4 Indefinite Integrals	408/ 5 - 15, 21 - 39
	5.5 The Substitution Rule	418/ 7 – 47, 53- 73
2/2/2017	7.1 Integration by parts	476/1 – 15, 25-29
	7.2 Trigonometric Integrals	484/1 – 15, 19, 21 - 25
	7.3 Trigonometric Substitution	491/1 - 13
2/9/2017	SNOW DAY	
2/16/2017	7.4 Integration by Partial Fractions	501/1 – 23
	7.7 Approximate Integration	516/8
	7.8 Improper integrals	534/1, 5, 13, 21, 27, 31
2/23/2017	Review and Test for Chapter 7	
3/2/2017	6.1 Areas Between Curves	434/1 – 27
	6.2 Volumes	446/1 – 17
	6.3 Volumes by cylindrical shells	453/1 – 25
3/9/2017	6.4 Work	458/3, 5, 7, 15
	6.5 Average value of the function	463/ 1-7
3/16/2017	Spring break – Application project for Chapter 6 Due 3/23/17	
3/23/2017	9.1 Differential Equations	590/1, 3, 5
	9.3 Separable Equations	605/ 1 – 9, 11 – 17, 39
3/30/2017	10.1 Parametric Curves	645/1 – 15, 19, 21, 25, 27,
	10.2 Calculus with parametric curves	655/1- 19, 29- 33, 37, 41
	10.3 Polar Coordinates	666/1- 11, 15 – 25, 55 - 61
	10.4 Areas and Lengths in Polar Coordinates	672/1- 13
4/6/2017	11.1 Sequences	704/3 - 11, 13 – 17, 23 – 41, 73, 77
	11.2 Series	715/3, 5, 17 - 25, 27 - 31, 37, 41, 43, 45, 57-61
4/13/2017	11.3 The integral Test	725/3 – 7, 9 – 17
	11.4 The Comparison Test	731/3 – 13
4/20/2017	11.6 The Ratio Test	743/3, 7-13
	11.8 Power Series	751/3, 7, 9
4/27/2017	11.9 Representations of functions as Power Series	757/3 – 9, 11, 15,17, 19
	11.10 Taylor and McLaurin series	771/5, 7, 11, 37, 47
5/4/2017	Review and Test for Chapter 9-11	
5/11/2017	Review for Final Exam	
5/18/2017	Final Exam	

Course Objectives.

Upon completion of the course, student should be able to:

1. Integrate the functions using substitution, integration by parts, the method of partial fractions, trigonometric substitutions, tables
2. Perform approximate integration
3. Show that the improper integral converges and find its value, or show that it diverges
4. Find the area bounded by the curves.
5. Find the volumes of revolution: disks, washers, and cylindrical shells.
6. Use integration on varies applications to physics and engineering
7.   Find general and particular solution of separable differential equations
8. Determine whether the sequence is convergent or divergent, and find the limit of the convergent sequences.
9. Determine whether the geometric series converges or diverges, and find the sum of each convergent series.
10. Use divergence test, limit comparison test, Integral test, ratio test and direct comparison test to determine whether the series is convergent or divergent.
11. Represent functions as power series, Taylor and Maclaurin series
12. Plot polar-form points.
13. Convert from polar to rectangular coordinates and from rectangular coordinates to polar
14. Find areas and lengths in polar coordinates
15. Graph in polar coordinates.
16. Find the derivative of equations of curves defined by parametric equations.
17. Find the area of a region bounded by curves defined by parametric equations.
18. Perform operations on vectors.
19. Find the standard representative of a vector.
20. Compute a resultant vector.
21. Find the dot and the cross product of two vectors.