



# WESTMINSTER COLLEGE

## **MAT 122 - Business Calculus Online** **TENTATIVE COURSE SYLLABUS** **Summer 2015**

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- Instructor:** Mrs. Jill Nichols
- Contact info:**
- jill.nichols@westminster-mo.edu
  - Google Hangouts (search jill.marleigh@gmail.com. Call or message anytime I'm online. Office Hours at differing times through Hangouts)
  - Skype anytime status is "Online" (search for jill.marleigh.nichols)
  - Cell: 254-299-7978 (call, or text with name, 8:00-5:00 Mon-Sat only please)
- Times/Location:** June 1 – July 10, 2015
- Prerequisites:** ACT math score 24 or SAT math score 540 and at least 4 years of high school math, including 2 years of algebra and some pre-calculus with at least B's. Students not meeting these prerequisites requires the students to successfully complete MAT 111 with a grade of C or better.
- Course Description:** A terminal calculus course, including a brief review of algebra and the study of the derivatives and integrals of algebraic, exponential and logarithmic functions. Applications of the derivative and the definite integral are also studied.
- TIER Requirements:** This course does not satisfy any Westminster Tier requirements.

### **Teaching & Learning Philosophy**

My goal is to make a meaningful difference in my student's lives by helping guide them through a small part of their education, which is this math course. I want for my students to learn and grow, both mathematically and as learners. I want to help students learn to think independently, abstractly, and to gain the confidence to attempt seemingly large problems by teaching them how to read for understanding, to break down large problems into sensible pieces, to work through problems step-by-step, to recognize mistakes, to backtrack, correct, and learn from those mistakes, and to find joy and accomplishment through success, further motivating hard work and continual learning.

Learning math happens through student's personal will and determination. Math skills are not a "gift" to be given or received. Mathematical skills are earned through hard work, struggle, practice, and successes. As the instructor, my goal is to structure this course in such a way as to support students as they embark on their journey to learn new mathematical concepts and to further their problem solving skills. I will explain new concepts in ways that students can understand, model the process of problem solving through example, and support students as needed to help them learn, gain skills, and succeed.

Students who choose not to work hard, struggle, and practice, will likely not see many successes, and may struggle with motivation towards this course and harbor negative feelings towards math generally. Students who dedicate themselves to learn and grow, to work hard, to ask pointed questions, and to work with the instructor will be rewarded with increased self-confidence and problem solving skills.

I am incredibly excited to get to know my students and to guide them along through this course!

## SUPPLIES

### Textbook (\$68)

*Applied Calculus for Business, Life and Social Science*, by Danny Burzynski.  
isbn: 978-1-936368-33-4

An “All-Access Pass” is included with the purchase of a new physical textbook.

Purchase the book either through the Westminster Bookstore or at <http://www.xyztextbooks.com/store>

### All-Access Pass (\$40)

Includes unlimited access to all e-content with xyztextbooks for 1 year, including access to

**OR**  
(not both)

MathTV.com videos	MathTV mobile
eBooks	QR Code Access
Worksheets	Xyz homework

Purchase at <http://www.xyztextbooks.com/store>

*xyzhomework.com Course ID: 5859*

## AND

**Calculator (required):** You will need, at minimum, a scientific calculator. The most powerful calculator allowed is a TI-84+.

**Spiral Notebook (recommended):** I recommend working all your problems in one place, such as a spiral notebook. Working out all homework practice problems in one place will make it easier for you to study, get help, and stay organized.

**Google Hangouts or Skype (required):** You are required to connect with Mrs. Nichols using either Google Hangouts or Skype. Both are free, and are available for computers, tablets and smartphones.

**A Trusted Exam Proctor (required):** Your exams will be on worked on paper, just as in traditional classes. You will need to find an educator or librarian to administer your exams for you.

## EVALUATION

Grades will be available through xyzhomework.com.

Standard rounding rules will be used.

Category	Percentage
Exam 1	20
Exam 2	20
Exam 3	20
Assignments	20
Homework	10
Participation	5
Oral Exam	5
<b>Total</b>	<b>100%</b>

Percent	Grade
≥ 93%	A
90% - 92%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
67% - 69%	D+
63% - 66%	D
60% - 62%	D-
< 60%	F

## COURSE COMPONENTS

- Pencil/Paper Exams (60%):** There will be three regular pencil-and-paper exams, each counting equally towards your course grade at 20% each. There is not a cumulative final exam.
- You must take the exams with a proctor of your choice. I recommend using either a public library, or finding a teacher (K-12 or college) that is willing to proctor your exam for you. I will email the exams to your proctor's professional email address, and he or she will be responsible for scanning and emailing your test to Mrs. Nichols.
- You may work ahead and take the exams at your earliest convenience. They are due from your proctor by Mondays June 15, June 29, and July 13.
- Late Test Policy: If you need to take an exam late for an excused or legitimate reason, you must provide documented proof of your reason. If you take an exam late for an unexcused reason, there will be a penalty of 20% off.
- Assignments (20%):** Assignments will vary in nature and in point value. Most assignments will involve working through and explaining your solution to a problem on a forum, and then replying to your classmates posts. You will usually have two assignments per week. Details will be on xyzhomework.com.
- Homework (10%):** Homework will be assigned and completed through the online system called xyzhomework.com. Homework will be due on Sundays, Mondays, Tuesdays, Wednesdays and Thursdays at midnight.
- Late homework can be submitted until the end of the course, which will result in a 20% point deduction from only the questions not correctly answered before the due date. If you need an extension due to illness or a good reason, and you have proof (such as a doctor's note, athletic notice, obituary link) show Mrs. Nichols and she will remove the late penalty.
- Weekly Participation (5%):**
- Week 1:
- Call Mrs. Nichols on Hangouts or Skype. This is an introductory call to get to know each other. To verify your identity, you will be asked to show an ID with your name and picture.
- and*
- Journal: email Mrs. Nichols a journal entry about the course. Details on xyzhomework.com.
- Weeks 2 – 5: You may satisfy the participation requirement by
- Journaling with Mrs. Nichols through email.
- and by doing at least one of the following*
1. Ask and/or answer at least three questions on the Q&A forums.
  2. Call Mrs. Nichols on Hangouts or Skype and ask questions or let Mrs. Nichols ask you questions.
  3. Participating in "Office Hours" one day by asking or answering questions.
- Each week, participation will be graded 0 or 1 for completion. 1 point = 1% of your course grade.
- Oral Exam (5%)** Week 6: Journal with Mrs. Nichols, and schedule an "oral exam" through Hangouts or Skype with Mrs. Nichols. The oral exam will be graded on a scale of 1-5 points. The point is largely to verify that the student enrolled participated and understands the basic concepts of calculus.
- Study Problems (ungraded):** If you feel that the required homework and quizzes are not enough for you to learn the material well enough to meet your goals, then you may want to practice extra problems from the book. Answers to all odd problems are in the back of the book.

## TOPICS

<b>Ch. 1 – Functions, Limits, and Rates of Change</b>
<b>Ch. 2 – Differentiation: The Language of Change</b>
<b>Ch. 3 – Applying the Derivative</b>
<b>Ch. 4 – The Natural Exponential and Logarithmic Functions</b>
<b>Ch. 5 – Integration: The Language of Accumulation</b>
<b>Ch. 6 – Applications of Integration</b>
<b>Ch. 7 – Calculus of Functions of Several Variables</b>

### *Tentative COURSE CALENDAR with Due Dates*

<i>week of</i>	<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday/Saturday</b>
<b>May 31</b>	<ul style="list-style-type: none"> <li>▪ Course Orientation</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1.1 HW</li> <li>▪ Assignment 1 (Intro forum) first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1.2 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1.3 HW</li> <li>▪ Assignment 2 due (Scavenger hunt)</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1.4 HW</li> <li>▪ Assignment 1 replies due</li> </ul>	<ul style="list-style-type: none"> <li>▪ Week 1 Journal due</li> </ul>
<b>June 7</b>	<ul style="list-style-type: none"> <li>▪ 1.5 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1.6 HW</li> <li>▪ Assignment 3 first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2.1 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2.2 HW</li> <li>▪ Assignment 4 first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2.3 HW</li> <li>▪ Assignment 3 replies due</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Exam 1</b></li> <li>▪ Assignment 4 replies due</li> <li>▪ Week 2 Journal due</li> </ul>
<b>June 14</b>	<ul style="list-style-type: none"> <li>▪ 2.4 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2.5 HW</li> <li>▪ Assignment 5 first post due</li> <li>▪ Exam 1 due from proctor</li> </ul>	<ul style="list-style-type: none"> <li>▪ 3.1 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 3.2 HW</li> <li>▪ Assignment 6 first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 3.3 HW</li> <li>▪ Assignment 5 replies due</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assignment 6 replies due</li> <li>▪ Week 3 Journal due</li> </ul>
<b>June 21</b>	<ul style="list-style-type: none"> <li>▪ 3.4 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4.1 HW</li> <li>▪ Assignment 7 first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4.2 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4.3 HW</li> <li>▪ Assignment 8 first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4.4 HW</li> <li>▪ Assignment 7 replies due</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Exam 2</b></li> <li>▪ Assignment 8 replies due</li> <li>▪ Week 4 Journal due</li> </ul>
<b>June 28</b>	<ul style="list-style-type: none"> <li>▪ 5.1 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 5.2 HW</li> <li>▪ Assignment 9 first post due</li> <li>▪ Exam 2 due from proctor</li> </ul>	<ul style="list-style-type: none"> <li>▪ 5.3 HW</li> <li>▪ 5.4 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 5.5 HW</li> <li>▪ Assignment 10 first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 6.1 HW</li> <li>▪ Assignment 9 replies due</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assignment 10 replies due</li> <li>▪ Week 5 Journal due</li> </ul>
<b>July 5 <i>Oral Exam this Week</i></b>	<ul style="list-style-type: none"> <li>▪ 6.2 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 6.3 HW</li> <li>▪ Assignment 11 first post due</li> </ul>	<ul style="list-style-type: none"> <li>▪ 7.1 HW</li> <li>▪ 7.2 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 7.3 HW</li> </ul>	<ul style="list-style-type: none"> <li>▪ 7.4 HW</li> <li>▪ 7.7 HW</li> <li>▪ Assignment 11 replies due</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Exam 3</b></li> <li>▪ Week 6 Journal due</li> </ul>
<b>July 12</b>		<ul style="list-style-type: none"> <li>▪ Exam 3 due from proctor July 13</li> </ul>				

## EXPECTATIONS

The Course: You are expected to keep up with the course. Because the material you will be learning in this course builds upon itself extremely quickly, it is very important that you study and practice the skills you will learn *every day*. **Getting behind by even one class day can easily cause you fall so far behind that you will be unable to catch up.** If you do not understand something or are unable to solve a particular type of problem, **get help immediately.**

Important Dates: You are expected to keep up with due dates and exam dates. All information and announcements will be posted on xyzhomework.com, so check it often. Urgent announcements will be e-mailed, so check your Westminster e-mail everyday.

Daily Preparation: You should anticipate 20-25 hours of study per week, although the precise number of hours of study necessary to master the material varies by student. It will be difficult to earn an acceptable grade without keeping up with the homework and asking many questions. Consistent daily preparation will facilitate the ability to meet your grade expectations.

Help: You are expected to seek help when you need to do so.

- I am your number one resource! It's okay to ask me for help – even if you know you should already know it. I am available during my office hours, or you can call anytime I'm online.
- Ask questions and look for answers to your questions on the Q&A forums.
- Go to the class “Hangout” to see if any classmates are online.

## POLICIES

Scholastic Dishonesty: Will NOT be tolerated. Westminster College students, staff, and faculty shall act in academic matters with the utmost honesty and integrity. Any form of academic dishonesty is a serious offense and, *at a minimum*, constitutes grounds for failure of the course. All instances of academic dishonesty will be handled as consistent with Westminster College regulations.

ADA: All faculty and students are required to follow the College's Honor Code, the ADA policy statement, college-wide policies prohibiting harassment and discrimination, the College Duty policy, and the Emergency Procedures. These policies and procedures can be found in the *Faculty Handbook*, Appendix R (hardcopy and on the Westminster College website), the *Faculty Advisor Handbook*, and the *Student Life Handbook*.