Math 111: College Algebra
Item 6179: ONLINE (Summer 2015)

Instructor: Aaron Warnock
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Website: https://people.highline.edu/awarnock/   **Canvas:** https://canvas.highline.edu/
                                                   MML: https://mylabsplus.highline.edu/

Office Hours: *(available in person or online, e-mail to make an appointment)*
        On campus: Wednesday: 10:00 am – 11:30 am
    Online Virtual Office*: Weekdays: *Various – e-mail me to schedule*
                *click on "Bb Collaborate" in Canvas

Course Summary:
Applications of functions (linear, quadratic, exponential and logarithmic) in business and social sciences, including total cost revenue and profit; break-even analysis; supply/demand and market equilibrium; exponential growth and decay; fitting curves to data with graphing utilities; theory of matrices; graphical methods for optimization (linear programming problems); and mathematics of finance (arithmetic and geometric sequences and sums).

Prerequisite: MyMathTest Algebra Core 77 or Math 91 or Math 98 with a 2.0

Learning Goals: At the end of this course you should be able to
- Construct, analyze, and interpret linear, quadratic and exponential functions applied to (1) total cost, total revenue, total profit; (2) breakeven analysis; (3) supply/demand and market equilibrium; (4) exponential growth and decay; and (5) fitting curves to data with graphing utilities.
- Accurately describe the important quantities, variables, and relationships (including units of measure) in a given application, using function notation where appropriate.
- Interpret the meaning in everyday language of (1) the breakeven point, (2) the market equilibrium point, (3) function notation, (4) the results of Reduced Row Eschelon form of a matrix, and (5) mathematics of finance.
- Identify elements and dimensions of matrices, perform and interpret the results of matrix operations, including adding and multiply matrices and solving systems of equations.
- Solve optimization (linear programming) problems using graphical methods, matrices, and technology where appropriate.
- Apply geometric sequences to solve finance problems, including solving for future or present value, interest rates, compounding times, lump sums, ordinary annuities and loans.

Text: Finite Mathematics and Calculus with Applications by Lial, Greenwell, & Ritchey
    You can choose to purchase the loose-leaf text with the MML code, or just the MML code (w/ eText)
        IMPORTANT: *I use a different text than all the other Math 111/148 classes at Highline (for MyMathLab). This means that if you plan to take Math 148, you'll have to purchase another text/online HW code (WebAssign) for that class. It also means that if you don't pass this course, and take a different Math 111 course you'll have to purchase a separate text/online HW code.*

Other Required Materials:
- **A graphing calculator**, preferably a TI-83 or 84. You can purchase one at most stores and online for $70 – 120, or can rent one for one quarter from the college for ~$30. If you prefer to rent, go to building 6 to pay the fee, then take your receipt to the front desk of the Highline library.
- A notebook and folder (a 3-ring binder with pockets and extra paper is recommended), pens/pencils, eraser, and extra paper (possibly graph/grid paper).

MML: Our course takes place in Canvas and MyMathLab (MML). Pay very close attention to the calendar and stay on top of all due dates. It is very important that you keep up with the **homework** and **quiz** assignments. You will be expected to spend 18-25 hours a week on Canvas and MyMathLab studying, watching videos, and completing assignments. This is an online class, you will get out of it what you put into it. It's really up to you how well you will do this quarter. You must take responsibility for your own learning to succeed.

> **To Access Canvas, go to https://canvas.highline.edu/ and login using your MyHCC login and password. If you have not activated your MyHCC account, you can do so at the help desk in building 30. You will need your access code from the bookstore to continue or you can purchase one online. MML is linked from within the Canvas course, but you can also access MML directly: https://mylabsplus.highline.edu/**

Online Section Schedule: For each section of material, you will complete the following.

1. **Read** the section in the **Textbook** and take notes
    a. either hard copy or online

2. **Watch** the section **Video** in MyMathLab and **Aaron's Video (in Canvas)** & take notes
    a. You MUST watch the videos Aaron creates because some topics are only covered here and will be on Relevant Applications and Exams. Blank copies of the notes are available to print and fill out while you follow along (strongly recommended!)

3. Complete the **Online MyMathLab Homework**
    a. MUST watch Aaron's video first
    b. infinite attempts at each problem
    c. may be completed in multiple sittings
    d. accepted late up to the day of the exam for -20%

4. Complete the **Online MyMathLab Quiz**
    a. First attempt is "free" to take, 2nd and 3rd attempts require 70% on the HW (pre-requisite)
    b. 3 attempts on each quiz (highest score counts)
    c. each individual quiz must be completed in one sitting at each attempt (they are timed)
    d. these **CANNOT** be done late, once the deadline has passed, they are closed
    e. *once* during the quarter each student will be allowed one extension for a missed quiz

5. **Every week**, there are two assignments in addition to MyMathLab.
    a. **Relevant Application** –the 2nd most important assignments of the quarter
        i. Submit it on Canvas by noon on Thursday (or midnight Wednesday if you don't like "noon").
        ii. On exam weeks, the Relevant Application is material that will be on the test, so make sure you've completed it before the test and submit it on-time. Not accepted after "noon".

6. After each **Exam**, complete the **Partial Credit Request (PCR)**
    a. Due by midnight on indicated Sundays.
    b. This is the most important assignment we do
    c. Use the posted Answer Key and follow the directions
    d. Exams which don't have a PCR submitted will be worth 0%.

> **IMPORTANT:**
> - **The due dates on the calendar are when the assignments are finally due. You should not wait until their due dates to complete them. Especially on exam weeks, make sure you are working ahead, because it will feel like a lot is due right before an exam. There is, but you're supposed to be working on it all through the week, and even working ahead.**
> - **You should always be writing out the problems and working them out with paper and pencil, even though you're submitting your answers online.**

Relevant Applications:
One of the emphases of this course is looking at the relevance of mathematics and how it applies to our real lives, and business and finance in particular. So you will have "relevant application" assignments to see how the mathematics we're studying is relevant in the real world. **These are due on Thursdays at noon.** If you don't like a noon deadline, consider it due Wednesday night at midnight. These are submitted electronically in Canvas. These can (recommended) be completed in groups. See more details on Canvas.

Exams:
Four exams will be given during the quarter. All exams are comprehensive and may contain material from the whole quarter to-date. *No make-up exams* will be given except for *extreme* circumstances, and you must notify the instructor **on or before the day of the exam.**

- Exams are taken in the new Testing Center, room 25-630 (the top floor of the library) on the dates below.
- There are limited spaces in the testing center, so each Monday before an exam a sign-up list will be posted in Canvas where you will pick one-hour slots from the times below. If your only available time is very specific, look for that post on Mondays as it will be on a first-come first serve basis. You may also arrange to take the exam earlier on Thursday if you have a conflict with these times.
- The times are
    - **Thursdays 4:30 pm to 7:30 pm**
    - **(Exam 1 is on a Monday because of 4th of July)**
- You will need picture ID to take the test, no notes or texts. Make sure you bring your graphing calculator.
- Following each exam, you must complete a Partial Credit Request (PCR). You can find more information on Canvas. Exams with no PCR submitted will receive a 0%.

Dates for the exams are as follows:
    Exam 1: July 6th   **Exam 2:** July 16th   **Exam 3:** July 30th   **Final Exam:** August 13th

Grading: Your final grade is based on the following

Homework on MML	12%	Relevant Applications	13%
Quizzes on MML	12%	Exams (4, 13% each)	39%
		Final Exam	24%

> **Grading Scale**
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> | | | | |
> |---|---|---|---|
> | 96-100 = 4.0 | 85 = 3.1 | 75 - 76 = 2.2 | 64   = 1.3 |
> | 94-95 = 3.9 | 84 = 3.0 | 73 - 74 = 2.1 | 63   = 1.2 |
> | 92-93 = 3.8 | 83 = 2.9 | 71 - 72 = 2.0 | 62   = 1.1 |
> | 91   = 3.7 | 82 = 2.8 | 70   = 1.9 | 60 – 61 = 1.0 |
> | 90   = 3.6 | 81 = 2.7 | 69   = 1.8 | 58 – 59 = 0.9 |
> | 89   = 3.5 | 80 = 2.6 | 68   = 1.7 | 56 – 57 = 0.8 |
> | 88   = 3.4 | 79 = 2.5 | 67   = 1.6 | 55   = 0.7 |
> | 87   = 3.3 | 78 = 2.4 | 66   = 1.5 | 0 – 54 = 0.0 |
> | 86   = 3.2 | 77 = 2.3 | 65   = 1.4 | |

Math Resource Center (MRC): Students are encouraged to use the MRC (located in Building 26-319) as a place to study and get additional help outside of class and the instructor's office hours. This is a great place to work together with students from the rest of the class, or get tutoring from other students. You can even use MML on the computers in the center.

Computer Problems Helpline: The instructor cannot troubleshoot computer problems. Please call the helpline at 206-870-4880 or e-mail them at helpdesk@highline.edu. If your concern is about MLP or MML, e-mail helpdesk@highline.mylabsplus.com or call (888) 883-1299.

Special Concerns: If you have any special concerns about this class, please talk to me personally in my office. The more I know about you individually, the more I can help you be successful in this course. If you need course adaptations or accommodations because of a dis-Ability; if you have emergency medical information to share with me; or if you need special arrangements in case the building must be evacuated, please provide me with the Letter of Accommodation you have received from the Office of Access Services. Access Services is located in Building 99 room 180.

Academic Dishonesty: Cheating, plagiarism, and other forms of academic dishonesty are unacceptable at Highline Community College and may result in lower grades and/or disciplinary action. It is both your right and responsibility to be familiar with the document entitled: Student Rights and Responsibilities code WAC 1321-120 adopted by the Board of Trustees of Community College District 9 on December 17th, 2007. This is available in the counseling center or online at http://www.highline.edu/stuserv/vpstudents/srr.html.