**\*\*\*\*\*\*\*\*\*\*UPDATED\*\*\*\*\*\*\*\*\*\***

**MTH 121 Syllabus – Spring 2014**

**Concepts and Applications of Mathematics with Algebra Review (CT)**

 Section 201 CRN: 4271MWF 10:00 am – 10:50 am CH 436

**Instructor:** Shannon Miller-Mace **Office:** SH 316

 **Email:** miller207@marshall.edu **Office Hours:** Monday/Wednesday 11:00 – 11:45am

 **Phone:** (304) 696-3796Tuesday/Thursday 10:00 – 11:45am

**Domains**: Critical Thinking -- Quantitative Thinking; Information Literacy; Communication Fluency.

**Description**: Critical thinking course for non-science majors that develops quantitative reasoning skills. Topics include logical thinking, problem solving, linear modeling, beginning statistics and probability, exponential and logarithmic modeling, and financial concepts. (PR: MTH 099 or Math ACT 19+) 3 hr.

**University Policies:** By enrolling in this course, you agree to the University Policies listed below.

Please read the full text of each policy by going to [www.marshall.edu/academic-affairs](http://www.marshall.edu/academic-affairs) and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to <http://www.marshall.edu/academic-affairs/?page_id=802>

**Technology:** Students will be required to create critical thinking papers and projects using a **computer** and access the **online homework tool** that will be used for the course. There are many computer labs located around campus.

**Calculators:** Students are required to have a **scientific or graphing calculator** for the course.

**Course Objectives:** This course will focus on domains of **Critical Thinking** as a basis for understanding and interpreting mathematical topics that will enable students to develop the quantitative reasoning skills they will need for college, career, and life. Emphasis will be placed on **improving Algebraic skills** necessary for future science classes.

 The **Quantitative Thinking** domain objectives ask to students to **analyze** real-world problems, **formulate** plausible estimates, **assess** the validity of visual representations of quantitative information, and **differentiate** valid from questionable statistical conclusions.

 The **Information Literacy** domain objectives ask students to **revise** their search strategies and **employ** appropriate research tools, **integrate** relevant information from reliable sources, **question** and **evaluate** the complexity of the information environment, and use information in an ethical manner.

 The **Communication Fluency** domain objectives ask students to **develop** cohesive oral, written, and visual communication **tailored** to specific audiences.

**Learning Outcomes:** Students will **practice each outcome** during interactive in-class lectures, textbook exercises assigned for homework, in-class group discussions and activities, board work, low-stakes writing, and project rough drafts.

Student **achievement of each outcome will be** **assessed** using in-class quizzes, homework assignments, research projects, group activities, in-class exams.

Outcomes are:

* Student will show mastery of basic Algebra Skills.
* Students will demonstrate an ability to analyze arguments and construct fallacies.
* Students will solve real-world problems using unit analysis.
* Students will interpret and analyze numbers that they will encounter in the real world.
* Students will demonstrate a proficiency in utilizing formulas from basic financial concepts such as loan payments, credit cards, and mortgages.
* Students will interpret and analyze statistical studies.
* Students will create tables and graphs from statistical data.
* Students will analyze and interpret statistical concepts such as measures of central tendency, measures of variation, and normal distributions.
* Students will demonstrate a proficiency in the fundamentals of probability including expected value.
* Students will compare linear growth and exponential growth rates and their real-world applications.
* Students will apply techniques employing common logarithms to solve equations.

**Required Materials/Policies:**

**TEXTBOOK COMPONENT:**The textbook will be provided for free in class only.  The textbook will also be posted in the MUOnline Content page for the class to use outside of the classroom.  It is suggested that you print a copy for yourself or purchase the modules from the bookstore and keep them in a 3-ring binder.

**QUANTWAY:**  MyQuantway.org is the online homework tool and access will be provided to the student for free. Students are required to have access to a computer and Internet outside of class.

**CALCULATOR:** A calculator should be used only when you are instructed to do so. Students are required to have a **scientific or graphing calculator** for the course. Students may not utilize cell phones as calculators during tests and should not develop a habit of using them during class time and on homework assignments.

**ATTENDANCE:** It is expected that each student shows up on time and is prepared for class.  Attendance is necessary for the successful completion of this course.  Unexcused absences from **four classes** will result in a **grade reduction of 10%** for the semester; unexcused absences from **six or more classes** will result in an **NC**.  To obtain an excused absence, please go to the Dean of Students’ Office in the MSC.  After one week absences are not excusable.  Students must notify the instructor by phone or e-mail prior to an exam if they cannot take a scheduled exam.  Students must present a serious reason for missing any exam.  Makeup exams will be given to students outside of class time at the convenience of the instructor within one week after the regularly scheduled exam.  After one week, the exam is to be made up during Dead Week.

**OUTSIDE CLASSROOM REQUIREMENTS: Students will need to *work at least 2-4 hours outside of class for every 1 hour spent in class,* studying notes and the textbook, and completing the OCE and PNL for each lesson in MyQuantway.org to meet the requirements of the course.**

**CLASSROOM ETIQUETTE:** During class, cell phones must be turned off and out of sight. Please make the instructor aware ahead of time if access to these devices is needed. We will engage each other and participate learning the material as a class.

**TUTORING FACILITIES:** Marshall University provides multiple options for free on-campus tutoring. The Mathematics Department tutoring lab is located in in Smith Music Hall 115. The University College has a tutoring lab on the first floor of Laidley Hall. It is the student’s responsibility to take advantage of these facilities in addition to utilizing office hours.

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**Projects:** Students will complete **Five Projects**. Each project should contain at least two pages of text, along with tables, graphs, and a bibliography on the topic assigned by the instructor. Students will submit a paper copy for hand grading AND an electronic version to be checked for plagiarism.

**Grading:** Each of the **four in-class** **exams** will be worth **10%** of the semester grade. A fourth, or **25%** of the course grade goes toward the **online homework.** There will be 5% each for **attendance and participation** and **classroom activities.** The **Final Exam** will also count for **25%** of the grade.

Semester Exams (4 exams @ 10% each) – 40%

Online Homework (collectively one grade) – 25%

Attendance/Participation (collectively one grade) – 5%

Classroom Activities (collectively one grade) – 5%

Final Exam (1 exam @ 25%) – 25%

Total – 100%

A student’s final letter grade will be determined on the following scale:

90.00 – 100% A

 80.00 – 89.99% B

 70.00 – 79.99 % C

 60.00 – 69.99% D

 Below 60.00% F

\*Students must take the MTH 121 Comprehensive Final Exam in order to complete the class and receive a letter grade. The exam is scheduled for Monday, May 5th, 2014 at 10:15 – 12:15 in CH 436

**Important Dates:** The following are a few dates that are noteworthy:

1/20/14 **Martin Luther King, Jr. Day – University Closed**

3/10/14 **Freshman Midterm D and F Grades Due**

3/28/14 **Last Day to Drop a Full Semester Course**

3/17 /14 – 3/22/14 **Spring Break – No Classes**

4/8/14 **Assessment Day**

4/28/14 – 5/2/14 **Dead Week**

5/5/14 **Comprehensive Final Exam (Monday, 10:15am – 12:15pm)**

**~Please refer to the Course Calendar for more detailed course due dates.~**

**NOTES:**