Marshall University
Syllabus

Course Title/Number	**MTH 121B – 202 Concepts and Applications (CT) CRN: 4009**
Semester/Year	Spring 2016
Days/Time	9:00 – 9:50 MTWR
Location	CH 436
Instructor	Laura L. Stapleton
Office	Smith Hall 720
Phone	304-696-4334
E-Mail	stapleto@marshall.edu
Office/Hours	Tuesday and Thursday: 10:00 am – 12:30 pm
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to 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 Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

Course Description: From Catalog

A quantitative reasoning skills course for non-science majors, this course meets a Core I/Critical Thinking requirement and a Core II/Social Sciences requirement. Topics include logical thinking, problem solving strategies, beginning statistics and probability, exponential and logarithms modeling, formula use, with basic algebra review. 4 hrs. PR: ACT Math 17 - 18, OR permission of University College.

The table below shows the following relationships: How each student learning outcomes will be practiced and assessed in the course.

Course Student Learning Outcomes	**How students will practice each outcome in this Course**	**How student achievement of each outcome will be assessed in this Course**
Students will show mastery of basic Algebra skills.	Interactive in-class lectures, group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will solve real-world problems using unit analysis.	Interactive in-class lectures, homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will interpret and analyze numbers that they will encounter in the real world.	Interactive in-class lectures, homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will demonstrate a proficiency in utilizing formulas from	Interactive in-class lectures, homework, Group work, in-class	In-class quizzes, activities, exams, out of class homework

basic financial concepts such as loan payments, credit cards, and mortgages.	discussions, Chapter reviews, Critical thinking activities	assignments and Critical Thinking activities
Students will interpret and analyze statistical studies.	Homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will analyze and interpret statistical concepts such as measures of central tendency, measures of variation, and normal distributions.	Homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will compare linear growth and exponential growth rates and their real-world applications.	Homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will demonstrate a proficiency in the fundamentals of probability including expected value.	Homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will compare linear growth and exponential grown rates and their real-world applications	Interactive in-class lectures, homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities
Students will demonstrate an ability to analyze arguments and construct fallacies.	Homework, Group work, in-class discussions, Chapter reviews, Critical thinking activities	In-class quizzes, activities, exams, out of class homework assignments and Critical Thinking activities

Required Texts, Additional Reading, and Other Materials

1. Jeffrey O. Bennett and William L. Briggs, **Using and Understanding Mathematics**, Sixth Edition. ISBN# 9780321706065.
2. Scientific Calculator.
3. Access to a computer with Internet Access

Course Requirements / Due Dates

1. **Exam 1** (Chapters 2 – 3) week of **February 8, 2016**.
2. **Exam 2** (Chapters 4 – 5) week of **March 7, 2016**.
3. **Exam 3** (Chapters 6 – 7) week of **April 11, 2016**.
4. The **Final** (Chapters 1, 8, 2, 4, 6, 7) is to be completed by **Friday, May 6, 2016 at 8:00 – 10:00 am.**
   Note: All dates (except the Final) are tentative and subject to change.

ATTENDANCE: Students are expected to attend each class. Attendance is taken by daily "sign-in" sheets. If you do not sign, then you will be counted as absent; and this "absence" cannot be corrected after the class has dispersed for the day. Unexcused absences from **four classes** will result in a reduction of one letter grade for the semester; unexcused absences from **six or more** classes will result in an F.

Students who miss one or two class periods can turn in the excuse directly to their instructor. If the absence is 3 or more days, please go to the Dean of Students' Office in the MSC. 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 (illness with a doctor's excuse, death in the family, university excused absence, etc.). Makeup exams will be given to students who have an excused absence for a test either outside of class time or during the last week of the semester at the convenience of the instructor.

GRADING POLICY: A student's grade is assessed by the following percentages earned from each of the categories below:

Category	% of Grade
In-Class Exams (3 at 20%)	60%
Attendance	5%
Basic Skills Assessments	10%
CT Activities	10%
Final	15%

The Mathematics Department uses the following grade scale for its classes:

90.00 – 100	=	A
80.00 – 89.99	=	B
70.00 – 79.99	=	C
60.00 – 69.99	=	D
Below 60.00	=	F

CRITICAL THINKING COURSE OBJECTIVES: (Critical Thinking – Quantitative Thinking; Information Literacy; Communication Fluency.) 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 that they will need for college, career, and life. Emphasis will be placed on Improving Algebraic Skills necessary for future mathematics or science classes.

- The **Quantitative Thinking** domain objectives ask 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.

CRITICAL THINKING ACTIVITIES: Students will complete Critical Thinking (CT) Activities focusing on their ability to synthesize Information Literacy with Quantitative thinking. Due dates will be announced. Students will submit a paper copy for hand grading AND possibly an electronic version to be checked for plagiarism.

BASIC SKILLS QUIZZES: Students will take 5 quizzes (time permitting) that focus on the mathematics required to understand the focus of each section. These include Basic Math, Fractions, Exponents, Scientific Notation, and Logarithms.

IN-CLASS ACTIVITIES: Students will engage one another during class by completing worksheet activities that help them discover the concepts in each section.

HOMEWORK EXERCISES: Students will be assigned textbook problems that relate to the lecture and activity. We will review these at the beginning of the next class.

CLASSROOM ETIQUETTE: During class, cell phones must be turned off and out of sight. Please make the instructor aware ahead of time if you need access to these devices.

EXAMS: Students will take four in-class exams covering approximately six sections each from the textbook. See the Calendar for approximate exam dates. You cannot use a cell phone calculator on exams/final.

FINAL EXAM: Students must take the MTH 121B Comprehensive Final Exam in order to complete the class and receive a letter grade. The final will be comprehensive and will be administered during exam week on May 6, 2016 at 8:00 am – 10:00 am in our classroom. Students are required to submit a GEAR artifact before the end of the semester.

TUTORING: Marshall University provides multiple options for free on-campus tutoring. It is the student's responsibility to take advantage of these facilities in addition to utilizing office hours.
The Mathematics Department tutoring lab is located in in Smith Music Hall 115. The current schedule can be found at www.marshall.edu/math/tutoringlab.asp. Schedules for the new semester are usually posted during the second week of classes.

The University College has a tutoring lab on the first floor of Laidley Hall. Information regarding this facility can be found at http://www.marshall.edu/wpmu/uc/tutoring-services

SCHEDULE (Subject to Change):

Week of:	Topic(s) Covered	Week of:	Topic(s) Covered
Jan 11	Syllabus Review, Basic Skills Material and **Quiz**	**Mar 7**	**Review and Take Exam 2**, 6A
Jan 18	Fraction Review and **Quiz**	**Mar 14**	6B
Jan 25	2A, 2B, Exponent Review and **Quiz**	**Mar 28**	6C, 7A
Feb 1	3A, 3B, Scientific Notation Review and **Quiz**	**Apr 4**	7B, 7E
Feb 8	3C, **Review and Take Exam 1**	**Apr 11**	**Review and Take Exam 3**, 8A
Feb 15	4B, 4C	**Apr 18**	8B, Logarithm Review and **Quiz**
Feb 22	4D	**Apr 25**	1B, Review for Final
Feb 29	4E, 5C	**On May 6**	**Final (8 am – 10 am in CH 436)**