**Marshall University Syllabus**

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| Course Title/Number  | Mathematical Concepts and Applications (CT) MTH 121B  |
| Section/CRN | Section 101 CRN 3013 |
| Days/Time | Monday, Tuesday, Wednesday, Thursday 8:00 – 8:50am |
| Location | Corbly Hall 436 |
| Instructor | Devon Wright |
| Office | Smith Hall 742E |
| Phone | (304) 696-4333 |
| E-Mail | tivener1@marshall.edu |
| Office/Hours | Monday 10-10:50 (SH 620), Tuesday and Thursday 12-1:50, Friday 1-1:50  |
| 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](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> 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**

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| 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 models, formula use, and financial concepts. PR: ACT Math 17 - 18, OR permission of University College. 4 hours |

The table below shows how each student learning outcomes will be practiced and assessed in the course.

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| **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 develop strong critical and logical thinking skills to navigate the media and be an informed citizen | Class work, discussion, homework  | In-class activity, projects, exam questions |
| Students will have a strong number sense and be proficient in estimation so they can put numbers from the news into a context that makes them understandable | Classwork, discussion, homework  | In-class activity, projects, exam questions |
| Students will be able to read news reports of statistical studies in a way that allows them to evaluated them critically and decide whether they should affect their personal beliefs | Classwork, discussion, homework  | In-class activity, projects, exam questions |
| Students will be familiar with basic ideas of probability and risk, and be aware of the impact on their lives | Classwork, discussion, homework  | In-class activity, projects, exam questions  |
| Students will possess the mathematical tools needed to make basic financial decisions | Classwork, discussion, homework  | In-class activity, projects, exam questions  |
| Students will understand how mathematics helps them study important social issues, such as the growth of populations, the depletion of resources, and the extermination of flora and fauna | Classwork, discussion, homework  | In-class activity, projects, exam questions  |

**Required Texts, Additional Reading, and Other Materials**

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| 1. **Text:** Using and Understanding Mathematics, A Quantitative Reasoning Approach, 6th Edition, by Bennett and Briggs
2. **Take home assignments and projects** will be assigned and are expected to be completed by the given due date. One of these assignments will be uploaded as an artifact into the university’s GEAR assessment website as part of the CT requirement for the class. These assignments will be discussed in class and will be collected. The general due date for Projects 1 – 4 will be on Thursday.
3. **Scientific calculator** with a [] or [^] , [] or [], and [LOG] and [LN] keys. I suggest TI 30X IIS (you can see the operations on the screen). Students may not utilize cell phones as calculators during tests.
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**Course Requirements / Due Dates**

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| 1. **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 projects assigned in class.
2. **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. If I determine that cell phones are becoming a problem during class time, I will give the class a quiz over all recent topics daily until cell phone use is no longer an issue.
3. **TUTORING FACILITIES:** Marshall University provides multiple options for free on-campus tutoring. The Mathematics Department tutoring lab is located in Smith Music Hall 115. The current schedule can be found at www.marshall.edu/math/tutoringlab.asp. 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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**Grading Policy**

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| The following point totals will assure the accompanying letter grade: 90% A 80% B 70% C 60% D Below 60% FThe grading scale is rigid. Students will receive the grade that they earn from the work that they do.

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| **Category** | **% of Grade** |  |
| In-Class Exams | 40% |  |
| Comprehensive Final Exam | 25% |  |
| Take-Home Assignments | 25% |  |
| Skill Quizzes  | 10% |  |

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**Attendance Policy**

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| 1. **Attendance:** Students are expected to attend and participate in each class. 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**. **To obtain an excused absence**, please go to the Dean of Students’ Office in the MSC.
2. **Make-up exams:** Students must notify the instructor in person or by e-mail prior to an exam if they cannot take a scheduled exam. Students must present a university excused absence before scheduling a make-up exam. Makeup exams will be given to students **outside of class time** at the convenience of the instructor (Monday through Thursday) within one week after the regularly scheduled exam. *After one week absences are not excusable for make-up exams.*
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Note: If your major is Math Education, this class will not count as part of your degree requirements. This class will count as an elective only. This is a terminal course which does not count as a prerequisite for any other math class including MTH 127.

**Course Schedule**

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| **MTH 121B Course Calendar (subject to change)** |
| **MTWR Class Spring 2015** |
|   | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| Aug | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Week One | Syllabus Prologue *Order of Operations* | Ch 1 Activity - Zombies 1A | 1B | *Overlapping Circles* 1C |   |   |   |
| Aug - Sept | 31 | 1 | 2 | 3 | 4 | 5 | 6 |
| Week Two | 1D |  **BSQ #1***FDP Patterns* | *Fraction Action*1E CT Guidelines | Ch 2 Activity – Problem Solving |   |   |   |
| Sept | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Week Three | Labor Day - No Class | 2A *Powers of 10* | 2B  | **BSQ #2** 2A PS Hints  |   |   |  |
| Sept | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Week Four | **Review for Exam 1**  | ***Exam 1*** | *Ratios and Percentages* | 3A |  |   |  |
| Sept | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Week Five | 3B | *Scientific Notation* | 3C | **BSQ #3** |   |   |  |
| Sept - Oct |  28 | 29 | 30 | 1 | 2 | 3 | 4 |
| Week Six | Ch 3 Activity – Earth, Moon, & Sun | *Exponents* *and Roots* | 4B  | *Algebra* |   |   |   |
| Oct |  5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Week Seven | *Algebra w/ Powers and Roots* | **BSQ #4** | 4C | 4D |  **FIRST DRAFT DUE** |   |  |
| Oct | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Week Eight | **Review for Exam 2** | ***Exam 2*** | CH 4 Activity – Marginal Tax Rates | 5C |  |   |   |
| Oct | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Week Nine | **BSQ #5**  | 6A | 6B | 6C |   |   |  |
| Oct - Nov | 27 | 27 | 28 | 29 | 30 | 31 | 1 |
| Week Ten | CH 6 Activity – Are we Smarter than our Parents? | **Review for Exam 3**  | ***Exam 3*** | Ch 7 Activity – Let’s Make a Deal |   |   |  |
| Nov | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Week Eleven | *Fractions* | 7A | 7B | 7E |   |   |   |
| Nov | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Week Twelve | **BSQ #7** *Basics of Logarithms* | *Logarithm Laws* | Ch 8 Activity – Rule of 70 | 8A |   |   |  |
| Nov | 16 | 17 | 18 | 19 | 20 | 21 | 222 |
| Week Thirteen | **BSQ #8** | 8B | **Review for Exam 4**  | ***Exam 4*** |   |   |  |
| Nov | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| Thanksgiving Break - No Classes |
| Nov - Dec | 30 | 1 | 2 | 3 | 4 | 5 | 6 |
| Week Fourteen | **Review BSQ****and Homework** | Make Up Exams | **FINAL DRAFT DUE** | **Review for Final** |  |   |   |
| Dec |  7 | 8 | **9** | 10 | 11 | 12 | 13 |
| Week Fifteen | FINAL EXAM |   |   |  |  |  |   |