

**Angelina College**  
**Science & Mathematics Division**  
**MATH 0325-Foundations of Mathematical Reasoning**  
**Instructional Syllabus**

**I. BASIC COURSE INFORMATION:**

**A. Course Description**

MATH 0325 – Fundamentals of Mathematical Reasoning.

This course surveys a variety of mathematical topics needed to prepare students for college level statistics or quantitative reasoning or for algebra-based courses. Topics include: numeracy with an emphasis on estimation and fluency with large numbers; evaluating expressions and formulas; rates, ratios, and proportions; percentages; solving equations; linear models; data interpretations including graphs and tables; verbal, algebraic and graphical representations of functions; exponential models. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. Prerequisite: Placement by testing or satisfactory completion of MATH 0310.

**B. Intended Audience:**

Students needing to strengthen their mathematics background before taking college level mathematics courses. (This course fulfills the prerequisite requirement for MATH1332 Contemporary Mathematics or MATH1342 Elementary Statistics only; it does NOT fulfill the requirement for MATH1314 College Algebra or MATH1324 Math for Business and Social Sciences.)

**C. Instructor: Rebecca Brown**

Office Location: None

Office Hours: None

Phone:

E-mail Address: rebrown@angelina.edu

**II. INTENDED STUDENT OUTCOMES:**

**A. Core Objectives Required for this Course**

1. Critical Thinking: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication: to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

**B. Learning Outcomes**

Upon successful completion of this course, students will:

1. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
2. Define, represent, and perform operations on real numbers, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.

3. Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
4. Apply algebraic reasoning to manipulate expressions and equations to solve real world problems.
5. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
6. Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions.

### III. ASSESSMENT MEASURES

#### A. Assessments for the Core Objectives

The core objectives will be assessed with test questions during the semester. An appropriate rubric will be used as suitable for the objectives.

#### B. Assessments for Course Learning Outcomes

All course learning outcomes for this class will be assessed with test questions during the semester. Appropriate rubrics will be used.

### IV. INSTRUCTIONAL PROCEDURES:

This course is taught using a combination of lectures, discussions, and practice exercises. The amount of time spent using any one technique will vary from lesson to lesson as determined to be most appropriate by the instructor.

### V. COURSE REQUIREMENTS AND POLICIES:

#### A. Required Textbooks and Recommended Readings, Materials and Equipment

1. **NMP workbook** – Math0325 Foundations Course (available in Angelina College bookstore)
2. **MyLabsPlus Access Code**, an on-line, tutorial, homework and assessment tool. You must be enrolled by the second week of the semester or you may be dropped from the course.
3. A **calculator** (not part of a cellphone or similar device) is required. Recommended calculator is a TI-30XS MultiView Scientific Calculator.
4. One **three-ring binder** with loose leaf notebook paper.(For this class only.)

**B. Course Policies** – This course conforms to the policies of Angelina College as stated in the Angelina College Handbook.

1. **Academic Assistance** – If you have a disability (as cited in Section 504 of the Rehabilitation Act of 1973 or Title II of the Americans with Disabilities Act of 1990) that may affect your participation in this class, you should see Sellestine Hunt Associate Dean of Student Services, Student Center, Room 200. At a post-secondary institution, you must self-identify as a person with a disability within the first two weeks of the semester; Ms. Hunt will assist you with the necessary information to do so. To report any complaints of discrimination related to disability, you should contact Mr. Steve Hudman, Dean of Student Affairs, in Student Center, Room 101, (936) 633-5292 or by email [shudman@angelina.edu](mailto:shudman@angelina.edu).
2. **Attendance** – Attendance is required as per Angelina College Policy and will be recorded every day. Any student with three (3) consecutive absences or four (4)

cumulative absences may be dropped from the class. Records will be turned in to the academic dean at the end of the semester. Do not assume that non-attendance in class will always result in an instructor drop. You must officially drop a class or risk receiving an F. A student may also be dropped due to lack of participation.

### 3. Additional Policies

- a. Class participation, questions, and discussion are encouraged, appreciated, and expected.
- b. Students must have their instructor's written permission to use any type of recording device.
- c. **CELL PHONES OR OTHER ELECTRONIC DEVICES**-Pagers, cellular phones, earphones, and similar electronic devices should be silent or off and **out of sight** during the entire class period.
- d. No electronic devices, other than approved calculators, may be used during any quiz or test. These prohibited electronic devices may include, but not be limited to: cell phones or smart phones, smart watches or other electronic visual aids, audio players, recorders, tablets, notebooks, Google glass, or any other similar devices, any digital device that can be used to record, transmit, receive, or play back audio, photographic, text, or video content. **Failure to follow this rule may result in the student receiving a grade of zero on the quiz or test.** If the student receives a test score of zero due to failure to follow this rule, the zero test score cannot be replaced by the final exam.
- e. Cheating on tests is not tolerated as per Angelina College policy and may result in expulsion from the course. Plagiarism is not tolerated and will result in a zero for any assignment in which it is detected.
- f. Visitors are not allowed in classrooms as stated in the College's policy.
- g. Technical issues do not excuse late homework. Please contact Pearson on their 24/7 helpline (888)883-1299 for assistance with MyLabsPlus.

### 4. STUDENT CONDUCT

A positive environment for learning will be maintained by students being courteous to each other and to the instructor. Eating, drinking, sleeping, and distracting conversations during lecture will not be allowed. Repeated tardiness will result in warning; if continued this will result in further action depending on upon seriousness of problem. Regular attendance is also expected as per college policy.

## VI. Course Outline

- **Numeracy:** Students will develop number sense and the ability to apply concepts of numeracy to investigate and describe quantitative relationships and solve real-world problems in a variety of contexts.
- **Proportional Reasoning:** Students will use proportional reasoning to solve problems that require ratios, rates, proportions, and scaling.
- **Algebraic Competence, Reasoning, Modeling:** Students will transition from specific and numeric to general and abstract reasoning using the language and structure of **algebra to investigate, represent, and solve problems.**
- **Assessing Risk (Probabilistic Reasoning):** Students will understand and critically evaluate statements involving risk and arguments based on probability that appear in the popular media, especially in presenting medical information.
- **Personal Finance:** Students will understand, interpret and make decisions based on financial information that is commonly presented to consumers.

- **Civic Life:** Students will understand that quantitative information presented in the media and by other entities can sometimes be useful and sometimes be misleading.

## VII. EVALUATION AND GRADING

1. The course grade will be determined by taking the total points earned dividing by the total possible number of points a student can earn, 750 points. Grades will be round to the nearest unit, and assigning a letter grade based on the following scale:

Average Grade	Letter Grade
90-100	A
80-89	B
70-79	C
60-69	IP*
50 & below	F or IP**

\*"IP" means in progress and the course must be repeated.

\*\*For the instructor to consider whether or not to record a grade of IP, rather than an F, the student must show a consistent effort to pass the class with regular attendance, competing homework assignments, and taking exams (including the final exam).

2. The grade for this course will be based on:

### a) Homework (200 points)

Homework and preview assignments will be completed online. Homework grades may include points for completion, points for correctness, classroom participation, discussion participation, written assignments, as well as the online platform homework and pre-assignment activities.

Homework is separated into two parts.

#### **Practice Assignments:**

This homework assignment is over the lesson tasks and activities completed in class. Due the next class day by 11:59 pm. There will be a daily 10% penalty for practice assignment work completed after the due date (up to 5 additional days).

The practice assignment grade will be a zero if not completed within 5 days of the due date.

#### **Preview Assignments:**

This homework is to prepare you for the tasks and activities during the next class. Due the next class day at 8:00 am. Note, this is before class starts. There will be a daily 10% penalty for preview assignment work completed after the due date (up to 3 additional days). The preview assignment grade will be a zero if not completed within 3 days of the due date. You must complete the preview assignment before you can access the practice assignment. Failure to complete the preview will result in a zero for both the preview and the corresponding practice assignment.

Actual due dates can be found in MyLabsPlus.

Homework Schedule may be altered depending on progress.

No assignments will be accepted after the due date.

**b) Exams (100 points each)**

Four comprehensive exams will be given this semester. You are required to show your work on exams. If you do not show your work, then you may not receive credit for an answer. Also, partial credit will be given; the more work you show, the more credit you may receive.

**No make-up exams will be offered.** The grade on the final exam can replace the lowest exam grade, including the grade from a missed exam.

**c) Final Exam (150 points)**

The final will be a comprehensive exam. A comprehensive final exam is mandatory for all students.

The instructor may modify the provisions of the syllabus to meet individual class needs by informing the class in advance as to the changes being made.

**NOTE: Monday, November 6th is the last day to drop with a "W".**