Angelina College
Division of Science and Mathematics
MATH 1351 – Fundamentals of Math II
General Syllabus Spring 2019

I. BASIC COURSE INFORMATION:

A. **Course Description**
Fundamentals of Mathematics II   Mathematics1351. This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the concepts of geometry, measurement, probability, and statistics with an emphasis on problem solving and critical thinking. Prerequisite: MATH 1314 College Algebra (3 SCH version) or MATH 1414.
(Note: A grade of C or better is needed in MATH 1314, MATH1350, and MATH 1351 in
 order to transfer 9 credit hours of mathematics to a major University.)

B. This course is intended for interdisciplinary studies majors, primarily those seeking Grades EC - 6 and Grades 4 - 8 certifications. It does not meet the requirements for many students seeking secondary certification.

C. Instructor: Richard Geist
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Office Hours: as posted on office door
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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. **Course Learning Outcomes for all Sections**
Upon successful completion of this course, students will:
1. Apply fundamental terms of geometry such as points, lines, and planes to describe two and three dimensional figures.
2. Make and test conjectures about figures and geometric relationships.
3. Use a variety of methods to identify and justify congruency and similarity of geometric objects.
4. Perform geometric transformations.
5. Demonstrate fundamental probability techniques and apply those techniques to solve problems.
6. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
7. Recognize, examine, and utilize the basic principles of describing and presenting data.
8. Perform measurement processes and explain the concept of a unit of measurement.
9. Develop and use formulas for the perimeter, area, and volume for a variety of figures.

III. ASSESSMENT MEASURES
A. Assessments for the Core Objectives
1. Critical thinking:
Students will use the techniques of problem solving and estimation skills and how these skills relate to geometry, probability, statistics, applications of the algebraic properties of real numbers, and concepts of measurement. Students will apply critical thinking skills by reading and completing problem sets related to the number systems and operations. Students will use creative and innovative thinking as they choose appropriate mathematical tools to solve a given problem. A rubric will be used to assess critical thinking skills and correctness of the solution.

2. Communication Skills:
Students will show how mathematical information should be communicated and to be sure that the meaning is clear. Students will use complete and correct notation, visually organize sequential mathematical information, and provide supporting justification for conclusions. Students will demonstrate written and visual communication skills by constructing tables, graphs, computer-generated graphics, and sequential arguments to support conclusions. A rubric will be used to assess written, oral, and visual communication skills.

3. Empirical and Quantitative Skills:
Students will use empirical and quantitative skills to draw conclusions about numbers and operations based on models of arithmetic. Students will also demonstrate how and why algorithms work. This may be assessed in embedded test questions.

B. Assessments for Course Learning Outcomes
1. None.

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

V. COURSE REQUIREMENTS AND POLICIES:
A. Required textbooks, Materials and Equipment в
1. Text(s) and supplementary materials Mathematical Reasoning for Elementary Teachers, 7th Edition, by Long, DeTemple and Millman (Addison Wesley)

MyLabsPlus (Password is bundled with textbook or can be purchased separately in the AC bookstore or online at angelina.mylabsplus.com)

Activities for Elementary Teachers, Sixth Edition, by Dolan, Williamson and Muri (Addison Wesley)

*Geometer's Sketchpad CD, Version 5, by Key Curriculum Press
Please wait until after the first class day before purchasing this software.

2. Specific equipment required of all students.   **(cell phone calculators will not be allowed)**
A TI (Texas Instruments) graphing calculator is required or highly recommended. The

TI-84 graphing calculator will be used by the instructor in classroom demonstrations. **TI-89, TI-92, TI-Voyager, or any calculator with CAS-software may NOT be used.**

3. Additional text(s) and supplementary materials for the individual instructor.
   The student is expected to have and to use: scissors, colored pencils, highlighter and ruler.

B. Assignments
   1. Specific assignments required for all students (term papers, homework, speeches, participation in community activities, etc.) See the attached: ASSIGNMENTS/CONTENT/TOPICS
   2. Appropriate due dates, schedules, deadlines, etc. as determined by the individual instructor   See the attached: ASSIGNMENTS/CONTENT/TOPICS
   3. Additional assignments - NONE

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

Educational Accommodations – 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 may fill out the Educational Accommodations application within your AC Portal, under the "Student Services" tab. A Student Success team member will contact you once the application is received. At a post-secondary institution, you must self-identify as a person with a disability in order to receive services; for questions regarding the application process you can visit the Office of Student Success and Inclusion in the Student Center (Room 200) or email access@angelina.edu. To report any complaints related to accommodations, you should contact Annie Allen, Director of Student Success & Inclusion, in Room 200 of the Student Center. You may also contact Ms. Allen by calling (936) 633-4509 or by emailing aallen@anglina.edu. To report discrimination of any type, contact Steve Hudman, Dean of Student Affairs, at (936) 633-5292 or 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 of 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**. This is official Angelina College Policy.

3. Additional Policies Established by the Instructor
   Class participation, questions, and discussion are encouraged, appreciated, and expected.

   Students must have their instructor's written permission to use any type of recording device.

   MAKE-UP EXAMS & QUIZZES
   No make-up exams will be offered. The grade on the final exam can replace the lowest exam grade, including the grades from a missed exam. There will be no make-ups for quizzes.

   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. Punctuality is considerate and expected behavior.

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.

CELL PHONES OR OTHER ELECTRONIC DEVICES
Pagers, cellular phones, earphones, and similar electronic devices should be silent or off and <u>out of sight during the entire class period</u>. Failure to follow this rule **may result in the student being asked to leave the classroom.**

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.

Technical issues do not excuse late homework. Please contact Pearson on their 24/7 helpline (888)883-1299. The instructor will not extend due dates that are not met due to technical issues.

Any student not enrolled in MyLabsPlus by September 6, 2018 will be dropped from the class.

Homework must be completed to be successful in this course. If a student has not <u>completed</u> at least 75% of the homework by the first exam, they may be dropped from the course.

Visitors are not allowed in classrooms as stated in the College's policy.

VI. COURSE OUTLINE:
See attached SUPPLEMENTAL ASSIGNMENTS

VII. EVALUATION AND GRADING
  A. Grading Criteria (*percents, extra credit, etc.*
      Grades are determined by numeric scores on the following written components.
      1. Three major tests at 100 points each.
      2. Three chapter quizzes (and other possible additional quizzes) valued at a total of 75 points.
      3. A project will be completed during the semester that utilizes Geometer's Sketchpad. This project will be 75 points towards the total points possible for the semester.
      4. A combination of homework, group work (which may be graded using a rubric), and in-class problems valued at 100 points. Homework will be completed on MyLabsPlus and is required. Late work will be assessed a deduction of 10 percent of the total points assigned <u>each day beyond the due date</u> set by the instructor.
     *5. Homework will be completed on MyLabsPlus at **angelina.mylabsplus.com** and **is required**:
         a. MyLabsPlus comes with new books from the Angelina College bookstore.If you do not have MyLabsPlus, it may be purchased with a major credit card at the above

website.
   b. MyLabsPlus login and details for computer homework will be distributed in class.
   c. **Homework will have due dates with penalties for late work. The homework will be due the next class meeting for full credit. You will be given a predetermined number of days to complete the homework.**
   d. The homework should be done on your home computer if possible. If that is impossible, there are campus sites available at the library and the math labs in Rooms S223 and S110. These may be used on a limited space available basis with computer science students having preference. (No printing or surfing may be done except in the library.)
6. A comprehensive final examination valued at 100 points.
7. The instructor reserves the right to adjust grades upward from this scale.
*8. Makeup tests are given only in extreme circumstances and are limited to ONE per student per semester. The instructor reserves the right to determine whether the makeup should be administered or not based on the severity of the circumstance.

B. Determination of Grade (*assignment of letter grades)--*
Grades will be assigned according to the scale below.

   90% - 100% = A
   80% - 89% = B
   70% - 79% = C
   60% - 69% = D
   Below 60% = F

The instructor reserves the right to adjust grades upward from this scale.

VIII. SYLLABUS MODIFICATION

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.

MATH 1351   Supplemental Assignments

Lesson	Sections
1	9.1 Figures in the Plane
2	9.1 Figures in the Plane (cont.)
3	9.2 Curves and Polygons in the Plane
4	9.2 Curves and Polygons in the Plane (cont.)
5	9.3 Figures in Space
6	10.1 The Measurement Process
7	10.2 Area and Perimeter
8	10.2 Area and Perimeter (cont) 10.3 The Pythagorean Theorem
9	10.4 Surface Area
10	TEST 1 Chapters 9 – 10.4
11	10.5 Volume
12	11.1 Rigid Motions and Similarity Transformations
13	11.1 Rigid Motions and Similarity Transformations (cont.)
14	11.2 Patterns and Symmetries
15	11.3 Tilings and Escher-like Designs
16	12.1 Congruent Triangles
17	12.2 Constructing Geometric Figures
18	12.3 Similar Triangles Quiz Chapters 10.5, 11 - 12
19	Test 2 Chapters 10.5, 11 - 12
20	13.1 Organizing and Representing Data
21	13.2 Measuring the Center and Variation of Data
22	13.3 Statistical Inference
23	14.1 Experimental Probability
24	14.2 Principles of Counting
25	14.3 Permutations and Combinations
26	14.3 Permutations and Combinations
27	14.4 Theoretical Probability
28	TEST 3 Chapters 13 & 14
29	Review
30	Comprehensive Final Exam (per Angelina College Final Exam Schedule)

NOTE: These dates (lessons) are approximate and may be adjusted by the instructor during the semester.