Fundamentals of Mathematics II, SMTE 1351.001
Department of Mathematics and Statistics
Fall 2016

A. COURSE INFORMATION

Course number/section:    SMTE 1351.001
Class meeting time:   9:30-10:45 TR
Class location:       CS 107
Course Website:   www.tamucc.mylabsplus.com

B. INSTRUCTOR INFORMATION

Instructor:  Marcia Mell
Office location: CI 367
Office hours:  MWF 10-11, TR 8:30-9:30 a.m.
Telephone:  361- 825-2844
e-mail:  Marcia.mell@tamucc.edu
Appointments:  For appointment please email.

C. COURSE DESCRIPTION

The conceptual framework for understanding and applying properties, models and operations related to various data systems in problem solving settings.
This research-based course provides the conceptual framework for increased understanding and application of rational numbers, probability, and statistics. Communicating concepts, processes or solutions effectively, in oral and written forms, will be emphasized. Using physical models to teach the content topics and understanding how learning occurs through their use will be a substantial portion of the class instructional plan.
The course will cover chapters 7, 11, and 13 in the textbook.

D. PREREQUISITES AND COREQUISITES

MATH 1314: College Algebra or equivalent
SMTE 1350: Fundamentals of Math I

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required:
• Help line for MyLabsPlus is 1- 888-883-1299. Students will log into mylabsplus using your net ID (mine is mmell) and if new, asking for password.
• Student Packet of materials at Barnes and Noble Bookstore on campus. Calculator.
F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

SMTE 1351 – Fundamentals of Mathematics II

Student Learning Objectives.

If the student meets the expectation of the instructor for completing assigned tasks, reflecting on the daily activities, studying the key concepts discussed during class, and getting additional help when needed, then the student will be able to:

1) Use, model, justify and explain relationships, operations and algorithms involving rational numbers, ratios, proportions and percent; as well as compare and contrast proportional and non-proportional relationships.

2) Create, use and explain a variety of appropriate data displays (tables, charts, graphs) and basic descriptive statistics that summarize data sets; compare and contrast the various representations.

4) Create, use and evaluate simulations and models that explore simple and compound experimental probability events. Use, justify and explain appropriate counting techniques, including permutations and combinations, to determine theoretical probabilities. Discuss the similarities and differences between experimental and theoretical probabilities.

5) Identify correct and incorrect mathematical reasoning, and analyze error patterns present in EC-6 student work, and suggest remediation for these errors.

6) Write, and solve mathematical problems that involve proportional, probabilistic, and statistical reasoning, as well as basic ideas of mathematical modeling, in a variety of mathematical or non-mathematical settings.
7) Communicate mathematical ideas appropriately through multiple representations, including oral and written words, concrete manipulatives and pictures, graphs, tables, and symbols.

By the end of this course, students should be able to:

1. Mathematical processes
2. Recognize that a mathematical problem can be solved in a variety of ways, evaluate the appropriateness of various strategies, and select an appropriate strategy for a given problem
3. Evaluate the reasonableness of a solution to a given problem
4. Use physical and numerical models to represent a given problem or mathematical procedure
5. Recognize that assumptions are made when solving problems and identify and evaluate those assumptions
6. Mathematical Perspectives
7. Understand and apply how mathematics progresses from concrete to representation to abstract generalizations
8. Communication
9. Communicate mathematical ideas and concepts in age-appropriate oral, written and visual forms for a class presentation
10. Use mathematical processes to reason mathematically, solve mathematical problems, make mathematical connections within and outside of mathematics, and communicate mathematically
11. Reflect on personal learning, change of attitude and beliefs, and growth in understanding through mathematical journaling
12. Translate mathematical statements among developmentally appropriate language, standard English, mathematical language, and symbolic mathematics
13. Technology
14. Use appropriate technology such as calculators, computer software, and the Internet to explore, research, solve, create and compare mathematical situations and representations
15. Professional Development

Be familiar with the National Council of Teachers of Mathematics and the Principles and Standards for School Mathematics, the NCTM website, and NCTM journals.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

The course will be a combination of lectures, individual, and group work. Students are expected to participate in group and whole class discussions by contributing with knowledge and thoughtful evaluation of the contribution of others. Using physical models to teach the content topics, and understanding how learning occurs through their use, will be a substantial portion of the class instructional plan.
H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td>Chapter Quizzes</td>
<td>25%</td>
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<tr>
<td>Homework/Classwork</td>
<td>25%</td>
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<tr>
<td>Family Math Night/Attendance</td>
<td>25%</td>
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IMPORTANT DATES:
Classes begin August 24th
Labor Day Holiday September 5th
Last day to drop a class Friday November 11th
Reading Days November 22-23, no classes
Thanksgiving Holidays November 24-25
Last day of class Dec 6th.
Fall Commencement December 17th

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE (WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to decimals</td>
<td>Chapter 7.1</td>
<td>In class and MyLabsPlus</td>
</tr>
<tr>
<td>2</td>
<td>Decimals numbers</td>
<td>7.2, 7.3</td>
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<tr>
<td>3-4</td>
<td>Percent …</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>Ratio and proportion</td>
<td>7.3</td>
<td></td>
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<tr>
<td>7</td>
<td>Exam 1…</td>
<td></td>
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<tr>
<td>8-10</td>
<td>Statistics: the interpretation of data</td>
<td>13.1, 13.2,13.3</td>
<td></td>
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<tr>
<td>11-13</td>
<td>Probability</td>
<td>14.1,14.2,14.3</td>
<td></td>
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<tr>
<td>14</td>
<td>Review for final</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Final Exam</td>
<td></td>
<td>Tuesday, Dec 13th 8-10:30</td>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Students are expected to be fully involved in class. Absences will affect your grade. Attendance will be recorded and counts 12 1/2% of your grade. Students must email or call me within 24 hours of missing class in order to be able to make up assignments. Classwork often cannot be made up. Students need to be respectful of their peers and not distract others during class time.

K. COLLEGE AND UNIVERSITY POLICIES

• Academic Integrity (University)
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

• Classroom/Professional Behavior
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

• Statement of Civility
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

• Deadline for Dropping a Course with a Grade of W (University)
  The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to
do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must be submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

  http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be
operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

- **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.