SMTE 1351: Fundamentals of Mathematics I
Department of Mathematics and Statistics
Summer I 2020

A. COURSE INFORMATION

Course number/section: SMTE 1351.001
Class meeting time: MTWR 4:00 – 5:53 PM
Class location: Online
Course Website: https://bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Dr. James Dogbey
Office location: CI 304
Office hours: MTWR 12:30-1:50PM (online) or by appointment
Telephone: 361 825 3159
E-mail: James.Dogbey@tamucc.edu
Appointments: Feel free to make an appointment with me via email if you are unable to attend my regularly scheduled office hours. I’m here to help.

C. COURSE DESCRIPTION

This research-based course provides the conceptual framework for increased understanding and application of rational numbers, probability, and statistics in problem solving settings. Communicating concepts, processes and solutions effectively, in oral and written forms, will be emphasized. Using physical models and activities to teach the content topics and understand how learning occurs through student doing and thinking about the meaning of various representations will be a substantial portion of the class instructional plan. In this course, you will explore what it means to learn mathematics from a student-centered perspective - you will be asked to think, problem solve, conjecture, reason, and explore mathematically. Through these processes you will construct and refine your mathematical knowledge for teaching (MKT).

D. PREREQUISITES AND COREQUISITES

MATH 1314: College Algebra or equivalent, or placement beyond College Algebra.
Successful completion of SMTE 1350: Fundamentals of Math I

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES


Optional Textbook(s) or Other References
Any scientific calculator: TI-83, or elementary calculators: TI –10 or TI-15 Explorer, or TI-35.
Supplies

Blackboard will be used for course management. You are responsible for any materials or messages posted on the Blackboard.

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.

By the end of this course, students should 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.
3. 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.
4. Identify correct and incorrect mathematical reasoning, and analyze error patterns present in EC-6 student work, and suggest remediation for these errors.
5. 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.
6. Communicate mathematical ideas appropriately through multiple representations, including oral and written words, concrete manipulative materials and pictures, graphs, tables, and symbols.

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 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

Exams: We will have 2 online exams each contributing 20% toward your final grade. These exams are currently scheduled for June 10 and June 25. Exams cannot be made-up; instead, your final exam score will replace the missed exam.

Final Exam: Our comprehensive final exam, scheduled on July 03, and will contribute 20% of your final grade. Your final exam score can replace your lowest in-class exam if it is beneficial to do so.

Labs: Labs are comprised of problems sets we will solve during online class. You are encouraged to work with others and seek assistance from the instructor on these assignments. Although we will work in small groups, each student is required to turn in their own lab solutions. Students who miss a lab day and have a documented excuse for that absence (doctor's note, pre-arranged athletic department absence, etc.) will be given the opportunity to make up that lab grade. Your lab work will be due at the beginning of the next online class period. Failure to comply with these stipulations will result in a grade of zero for the lab. Lab assignments will contribute 10% of your final grade.

Problem Sets: Homework/Lab problem sets will be assigned throughout the semester and will contribute 30% of your final grade. You are encouraged to work together and talk with the instructor about these problems. Late problem sets will not be accepted unless accompanied by a documented excuse (doctor's note, pre-arranged athletic department absence, etc.).

Attendance: Attendance/participation will contribute 5% of your final grade. Coming to class prepared and actively participating in class activities, learning each lesson and doing the homework on time will contribute to your success in this class. Specific directions for course activities/assignments (e.g., content, format, submission, deadlines, feedback) will be announced in class and/or posted on TAMUCC-Blackboard, at https://bb9.tamucc.edu/.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>2 Online Exams</td>
<td>40%</td>
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<tr>
<td>Homework/Lab Sets</td>
<td>30%</td>
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<tr>
<td>Paper (ME by the SEa conference)</td>
<td>5%</td>
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<tr>
<td>Attendance and Participation</td>
<td>5%</td>
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<tr>
<td>Final Exams</td>
<td>20%</td>
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ME by the SEa: Attendance will contribute 5% of your final grade (Friday, June 14, 2019).
## I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Content &amp; Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>06/01</td>
<td>Syllabus &amp; Fraction Ch. 6</td>
<td>Fractions</td>
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<tr>
<td>1</td>
<td>06/02</td>
<td>Chapter 7.1</td>
<td>Decimals and Real Numbers</td>
</tr>
<tr>
<td>1</td>
<td>06/03</td>
<td>Chapter 7.2</td>
<td>Computations with Decimals <strong>HW #1 Due</strong></td>
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<tr>
<td>1</td>
<td>06/04</td>
<td>Chapter 7.2</td>
<td>Computations with Decimals</td>
</tr>
<tr>
<td>2</td>
<td>06/08</td>
<td>Chapter 7.3</td>
<td>Proportional Reasoning, <strong>HW# 2 Due</strong></td>
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<tr>
<td>2</td>
<td>06/09</td>
<td>Chapter 7.3</td>
<td>Proportional Reasoning</td>
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<tr>
<td>2</td>
<td>06/10</td>
<td>Chapter 7.4</td>
<td>Percent, <strong>Exam 1</strong></td>
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<td>2</td>
<td>06/11**</td>
<td><strong>ME by the SEa</strong></td>
<td><strong>ME by the SEa Conference Attendance Friday, June 14th</strong>**</td>
</tr>
<tr>
<td>3</td>
<td>06/15</td>
<td>Chapter 8.1</td>
<td>Algebraic Expressions, Functions and Equations, <strong>HW# 3 Due</strong></td>
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<tr>
<td>3</td>
<td>06/16</td>
<td>Chapter 8.1</td>
<td><strong>ME by the SEa Paper - Due</strong></td>
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<tr>
<td>3</td>
<td>06/17</td>
<td>Chapter 13.1</td>
<td>Organizing and representing data,</td>
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<tr>
<td>3</td>
<td>06/18</td>
<td>Chapter 13.2</td>
<td>Measures of center and variation, <strong>HW# 4 Due</strong></td>
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<tr>
<td>4</td>
<td>06/22</td>
<td>Chapter 13.2</td>
<td>Measures of center and variation</td>
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<tr>
<td>4</td>
<td>06/23</td>
<td>Chapter 14.1</td>
<td>Experimental Probability</td>
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<tr>
<td>4</td>
<td>06/26</td>
<td>Chapter 14.1</td>
<td>Experimental Probability, <strong>HW #5</strong></td>
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<tr>
<td>4</td>
<td>06/25</td>
<td>Chapter 14.2</td>
<td>Principles of counting <strong>Exam 2</strong></td>
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<tr>
<td>5</td>
<td>06/29</td>
<td>Chapter 14.3</td>
<td>Permutations and Combinations</td>
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<tr>
<td>5</td>
<td>06/30</td>
<td>Chapter 14.3</td>
<td>Permutations and Combinations</td>
</tr>
<tr>
<td>5</td>
<td>07/01</td>
<td>Chapter 14.4</td>
<td>Theoretical Probability</td>
</tr>
<tr>
<td>5</td>
<td>07/02</td>
<td><strong>Review (No Class)</strong></td>
<td>Review</td>
</tr>
<tr>
<td>5</td>
<td>07/03</td>
<td>Final Exam</td>
<td><strong>Comprehensive Final Exam</strong></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

**Late Work and Make-up Exams**

Late work and Make-up Exams are only tolerated under reasonable circumstances with proper documentations.

**Extra Credit:** None

**Missed Exam**

Students who miss Exams and have a documented excuse for that absence (doctor’s note, pre-arranged athletic department absence, etc.) will be given the opportunity to make up that Exam. Upon your return to class you are required to present your documentation to me and we arrange to make up your exam.
Participation
An important aspect of learning to teach is, in part, a function of being a member of a community of learners that interacts to build knowledge about teaching and children’s learning. Another important aspect of learning to teach is engagement and collaborative work. Effective teachers are committed to professional growth through participation and collaboration to improve their practice. You are, therefore, expected to actively participate in online class, as this course is designed to draw upon the experiences and insights of your peers and your participation makes for a richer experience for all. Simply attending class does not constitute participation.

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)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must
initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. 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.C0.03, 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 required 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.C0.03, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf. 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/

- **Civil Rights Complaints**
  Texas A&M University-Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz
Limits to Confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University’s student record policies. However, students should be aware that University employees, including instructors, are not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

• 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.