



STEPHEN F. AUSTIN STATE UNIVERSITY

Department of Mathematics and Statistics

MATH 0342 – Introductions to Probability and Statistics Corequisite Support Course Syllabus

Course Description: This non-credit course provides just-in-time academic support for students concurrently enrolled in **MATH 1342—Introduction to Probability and Statistics**. Emphasis is placed on reinforcing prerequisite mathematical skills, strengthening quantitative reasoning, and promoting conceptual understanding necessary for success in statistics. The course also focuses on mathematical communication, confidence building, and development of study skills, enabling students to explain reasoning clearly, organize mathematical work, and approach problem-solving with persistence and self-assurance.

Students engage in targeted practice, collaborative problem-solving, and guided reflection to connect foundational mathematics to statistical concepts, including data analysis, probability, and inferential reasoning. All work is expected to be clearly organized and communicated; students will develop effective strategies for learning and applying mathematical concepts independently and collaboratively.

Credit hours: 3

Course Corequisites: MATH 1342

Course Outline: Units may include (aligned with MATH 1342 topics) –

- 1. Review of Algebra and Mathematical Foundations:** Operations with numbers, fractions, decimals, ratios, and basic functions
 - Logical reasoning, organized work, clear written explanations
- 2. Descriptive Statistics:** Measures of central tendency and variability; data representation
 - Communicating statistical reasoning, presenting organized solutions
- 3. Probability Concepts:** Basic rules, addition/multiplication, and conditional probability
 - Articulating reasoning, step-by-step problem solving, connecting algebra to probability
- 4. Random Variables and Distributions:** Discrete and continuous distributions, expected value, variance
 - Reasoning through problems, communicating conclusions, verifying results
- 5. Sampling and Inferential Concepts:** Sampling distributions and introduction to inference
 - Organizing analyses, interpreting results, clear communication of reasoning
- 6. Problem-Solving Strategies and Study Skills:** Error analysis, test preparation, note-taking, time management
 - Confidence building, persistence, and development of independent learning strategies

Student Learning Outcomes (SLO): Upon successful completion of this course, students will be able to:

1. **Strengthen foundational mathematical skills** relevant to probability and statistics, including algebraic operations, fractions, decimals, ratios, and basic functions.
2. **Apply quantitative reasoning and problem-solving strategies** to analyze statistical problems and organize solutions clearly and logically.
3. **Communicate mathematical and statistical ideas effectively**, both orally and in writing, using proper notation, terminology, and structured presentation.
4. **Develop confidence in mathematical reasoning** and persistence when approaching new or challenging statistical concepts.
5. **Use study skills specific to mathematics and statistics**, including note-taking, error analysis, time management, and preparation for assessments.
6. **Collaborate productively with peers**, explaining reasoning, justifying methods, and reflecting on problem-solving strategies.
7. **Demonstrate readiness and improved performance in MATH 1342** through consistent application of reasoning, communication, and study strategies.

There are no specific program learning outcomes for this major addressed in this course. It is a general education core curriculum course and/or a service course.

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