MATH 0342 - Statistical Foundations Course Syllabus

Description
The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving.
Corequisites Math 1342

Semester Offered
Fall
Spring
Credits 3
Lecture Hours 3
Lab Hours 0
Extended Hours 0
Contact Hours 48
State Approval Code Not Applicable
Instructor Name Marie Graham
Semester/Year Fall 2024

Meeting Time and Location
MATH 0342.401--Online: Students are expected to spend at least 3-4 hours per week (based on the number of contact hours for the particular course, change the number to reflect that) reading, reviewing, and participating in assigned activities for successful completion of this course.

Alternate Operations During Campus Closure
In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Panola College to move to altered operations. During this time, Panola College may opt to continue delivery of instruction through methods that include, but are not limited to: online learning management system (CANVAS), online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Panola College's website (www.panola.edu) for instructions about continuing courses remotely, CANVAS for each class for course-specific communication, and Panola College email for important general information.

Student Basic Needs
Unexpected circumstances may arise, but Panola College offers various resources to support students. If you need mental health services or are facing challenges with transportation, affording class materials and supplies, or accessing food regularly—issues that may impact your class performance—please visit panola.edu/resources.

Class Attendance
Regular and punctual attendance of classes and laboratories is required of all students. When a student has been ill or absent from class for approved extracurricular activities, he or she should be allowed, as far as possible, to make up for the missed work. If a student has not actively participated by the census date, they will be dropped by the instructor for non-attendance. This policy applies to courses that are in-person, online, hybrid, and hyflex.

Attendance in online courses is determined by submission of an assignment or participation in an activity. According to federal guidelines, simply logging into a distance learning course without participating in an academic assignment does not constitute attendance. Distance learning is defined as when a majority (more than 50%) of instruction occurs when the instructor and students are in separate physical locations. Students must engage in an academic activity prior to the course census date.

When an instructor feels that a student has been absent to such a degree as to invalidate the learning experience, the instructor may recommend to the Vice President of Instruction that the student be withdrawn from the course. Instructors may seek to withdraw students for non-attendance after they have accumulated the following number of absences:

Fall or spring semesters:

3 or more class meeting times per week - 5 absences

2 class meeting times per week - 3 absences

1 class meeting per week - 2 absences

The student is responsible for seeing that he or she has been officially withdrawn from a class. A student who stops attendance in a class without officially withdrawing from that class will be given a failing grade; consequently, the student must follow official withdrawal procedures in the Admissions/Records Office.

Please note: Health Science and Cosmetology courses may require more stringent attendance policies based on their accreditation agencies. Please see the addendum and/or program handbook for further information concerning attendance.

Pregnant/Parenting Policy

Panola College welcomes pregnant and parenting students as a part of the student body. This institution is committed to providing support and adaptations for a successful educational experience for pregnant and parenting students. Students experiencing a need for accommodations related to pregnancy or parenting will find a Pregnancy and Parenting Accommodations Request form in the Student Handbook or may request the form from the course instructor.

Artificial Intelligence (AI) Course Policy

There are situations throughout the course where you may be permitted to use artificial intelligence (AI) tools to aide in further understanding of mathematical concepts. However, AI tools may not be used for any graded assignments including but not limited to exams, quizzes, and projects. Use of any AI-generated content in this course without the instructor's consent qualifies as academic dishonesty and violates Panola College's standards of academic integrity.

Instructional Goals and Purposes

The purpose of this course is to increase academic proficiency in expression of mathematical solutions have mathematical reasoning and mathematical understanding.

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.

Course Content

Students in all sections of this course will learn how to:

1. Identify variables in context.
2. Classify data as a type of number.
3. Evaluate exponents.
4. Translate between scientific notation and standard form and vice versa.
5. Identify the number of significant digits.
6. Round decimals.
7. Write fractions in lowest term and apply operations to fractions.
8. Apply operations to decimals.
9. Convert between decimals, fractions, and percentages.
10. Calculate relative frequencies.
11. Find the percentage of a number.
12. Plot points.
13. Interpret basic statistical graphs.
14. Apply the order of operations.
15. Evaluate square roots.
16. Evaluate expressions and formulas.
17. Apply summation notation.
18. Evaluate factorials.
19. Determine the intersection, union, and complement of two sets.
20. Evaluate formulas for probability distributions.
21. Evaluate the binomial probability formula.
22. Find the area of a rectangle.
23. Interpret inequality notation.
24. Evaluate formulas for normal probability distributions.
25. Find the middle value for an interval written either as an inequality or in interval notation.
26. Find the distance from the middle value of an interval to its endpoints.
27. Write and interpret three different forms of intervals (as used for confidence intervals).
28. Evaluate formulas used for confidence intervals.
29. Evaluate formulas for hypothesis testing.
30. Find and interpret slope.
31. Find and interpret the y-intercept of a line.
32. Find values from a linear equation or graph.
33. Graph a linear equation.
34. Find and interpret a linear model (y = mx + b).

Methods of Instruction/Course Format/Delivery

Methods of Instruction/Course Format/Delivery: Methods employed will include lecture/demonstration, discussion, problem-solving, analysis, and reading assignments. Homework will be assigned. Faculty may choose from but are not limited to, the following methods of instruction:

1. Lecture

2. Discussion

3. Internet

4. Video

5. Television

6. Demonstrations

7. Field trips

8. Collaboration

9. Readings

Major Assignments/Assessments

The following items are assigned and assessed during the semester and used to calculate the student's final grade.

Course Grade

Assignment Weights

- Daily Grades 25%
- Major Exams 50%
- Comprehensive Final Exam 25%

Letter Grades for the Course will be assigned as follows:

A: 90 ≤ Average ≤ 100

B: 80 ≤ Average < 90

C: 70 ≤ Average < 80

D: 60 ≤ Average < 70

F: 0 ≤ Average < 60

Texts Materials, and Supplies

Canvas Access

Addendum

Each student will adhere to the instructor's course handout presented in the Canvas Course. See link for details.

Click here to access the Course Survival Guide.

Other

- Courses conducted via video conferencing may be recorded and shared for instructional purposes by the instructor.
- For current texts and materials, use the following link to access bookstore listings: https://www.panolacollegestore.com.
- For testing services, use the following link: https://www.panola.edu/student-services/studentsupport/academic-testing-center.
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Charles C. Matthews Student Center or go to https://www.panola.edu/studentservices/student-support/disability-support-services for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook: https://www.panola.edu/ (located on at the bottom under student)