MATH 1530 XXX Probability and Statistics
Fall or Spring 20XX

This syllabus is subject to change with notice.

Credit Hours: 3.0

Prerequisites:

Exception from, or completion of, READ 0810 and ENGL 0810.

Co-requisites:

Students enrolled in MATH 0530 must also be enrolled in MATH 1530 during the same semester.

Catalog Description:

This course is an introduction to probability and statistics without calculus. Topics covered include sampling, frequency distribution, elementary probability, hypothesis testing, linear regression and correlation, analysis of variance and non-parametric statistics.

Group for Whom the Class is Intended:

Students with appropriate placement score on ACT or ACCUPLACER test.

Instructor Information:

Name: XXX, [appropriate instructor title]
Office Location: Office XXX Campus
Office Hours: as Posted
Academic Advising Hours: as Posted
Phone Number: XXX-XXX-XXXX
Email Address: XXX@mscc.edu

Required Text(s):


Supplemental Materials:

Required: graphing calculator (TI-83 Plus or TI-84 Plus, preferred)
Recommended: student solutions manual
Program Learning Outcomes:

After completing the requirements of the Mathematics Program, students will be able to:

• solve problems and determine if the solutions are reasonable;
• model real world behaviors and apply mathematical concepts to the solution of real-life problems;
• make meaningful connections between mathematics and other disciplines;
• use technology for mathematical reasoning and problem solving; and
• apply mathematical and/or basic statistical reasoning to analyze data and graphs.

Student Learning Outcomes:

By the end of the course, students will be able to:

• collect and assemble quantitative data, making wide use of tables and graphs;
• develop a working knowledge of probability and its applications to the binomial and normal distributions;
• utilize hypothesis testing as it is related to the mean and proportion for future use in any research;
• describe and test the significance of relationships between two variables using correlation and linear regression; and
• apply inferential methods to differentiate configurations of data.

Course Objectives:

Throughout the course, students will have the opportunity to:

1. construct and graph a frequency distribution as a histogram, a frequency polygon and an ogive;
2. calculate measures of central tendency;
3. calculate measures of variation;
4. utilize the concepts of union and intersection when working with problems involving sample spaces, events and probability experiments;
5. determine the probability of an event;
6. apply properties of probabilities;
7. use counting techniques with probability;
8. apply properties of conditional probability and independent events;
9. utilize the properties of a binomial distribution;
10. calculate a z-score;
11. utilize a z-score when finding probabilities for continuous variables;
12. find the z-score for a given probability;
13. utilize a normal curve to approximate a binomial distribution;
14. utilize the central limit theorem to find probabilities associated with sample means;
15. test hypotheses about population parameters;
16. utilize the t-test when a standard normal z-test is unsuitable;
17. construct and utilize confidence intervals;
18. calculate appropriate sample sizes for tests of proportions and means;
19. determine linear correlation for bivariate data; and
20. develop a linear regression equation.
Grading Policies:

Suggested Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90–100%</td>
</tr>
<tr>
<td>B</td>
<td>80–89%</td>
</tr>
<tr>
<td>C</td>
<td>70–79%</td>
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<tr>
<td>D</td>
<td>60–69%</td>
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<tr>
<td>F</td>
<td>Below 60%</td>
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</tbody>
</table>

Attendance is expected for all scheduled class meetings.

Homework:

[Instructor will state her/his individual policy.]

Tests:

[Instructor will state her/his individual policy.]

Course Policies:

Academic Misconduct Policy:

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly, through participation or assistance, are immediately responsible to the instructor of the class. Based on their professional judgment, instructors have the authority to impose the following academic sanctions: (a) require the student to repeat the assignment for full or partial credit; (b) assign a zero, an F, or any other grade appropriate for the assignment or examination; (c) assign an F for the course. In addition, disciplinary sanctions may be imposed through the regular institutional procedures.

Classroom Misconduct Policy:

The instructor has the primary responsibility for maintenance of academic integrity and controlling classroom behavior, and can order temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct that violates the general rules and regulations of the institution for each class session during which the conduct occurs. Extended or permanent exclusion from the classroom, beyond the session in which the conduct occurred, or further disciplinary action can be effected only through appropriate procedures of the institution.

Disruptive behavior in the classroom may be defined as, but not limited to, behavior that obstructs or disrupts the learning environment (e.g., offensive language, harassment of students and professors, repeated outbursts from a student which disrupt the flow of instruction or prevent concentration on the subject taught, failure to cooperate in maintaining classroom decorum, etc.), text messaging, and the continued use of any electronic or other noise or light emitting device which disturbs others (e.g., disturbing noises from beepers, cell phones, palm pilots, lap-top computers, games, etc.)

Class Cancelation Policy:

Your instructor will inform you of her/his individual class cancelation policy. Additionally, students are advised to take advantage of the Motlow Alert system in order to receive text messages when Motlow State is closed. Click here for information on Motlow Alert [new window].

Inclement Weather Policy:

If Motlow State is officially open, this class will meet as scheduled. If Motlow State is officially closed, this class will not meet. Students should, however, make every attempt to work from home to maintain their pace and continue progressing through the course.
Emergency Procedures Policy:

In case of a **medical emergency** we will immediately dial 9-911 and report the nature of the medical emergency to emergency response personnel. We will try to stay with the person(s) in need and maintain a calm atmosphere. We will talk to the person as much as possible until response personnel arrive on campus, and we will have someone go outside to meet emergency personnel and direct them to the appropriate location.

In the event of an emergency (drill or actual), a signal will be sent. Based on that signal, students will follow the procedures below for that specific type of emergency:

**Loud warbling sound throughout Building (FIRE)**

Collect purses and coats and proceed immediately out of your room and exit through the closest emergency exit. Proceed to the Designated Assembly Area closing windows and doors as you exit. Remain there until the "All Clear" Signal is given by an Emergency Management Team member. (Instructors- Provide your Designated Assembly Area, and its location to students!)

**Tornado Siren (SEVERE WEATHER):**

Proceed to the closest designated severe weather shelter on the 1st floor and proceed all the way into the shelter. Crouch down on the floor with your head between your knees facing away from the outside walls. Remain there until the "All Clear" Signal is given. (Instructors- Provide the recommended room number or hallway location to students)

**(INTRUDER/HOSTAGE):**

Ensure door is closed, locked and lights turned off. If your door will not lock, move some tables and chairs in front of the door quickly. Move immediately to the rear of the room away from the door and sit on the floor- out of sight if possible. Remain calm and quiet and do not respond to any inquiries at the door unless you have been given the "All Clear" and a member of law enforcement or your campus Emergency Management Team member makes face-to-face contact at your door.

**Classroom Locked-door Policy:**

In order to adhere to **MSCC Emergency Preparedness Policy** and to facilitate effective classroom management, the classroom door will remain closed and locked for the duration of the class period.
Educational Technology:

**Accessing Campus Computers or the MSCC Library from off Campus:**
Your Username format is your First Initial, Last Name and Month and Day Birthday in the Format of MMDD. Example: Marcia Smith born on April 11, 1992 - Username: msmith0411. Your Pin will be the numeric pin you created when you initially applied to Motlow College with a capital letter for the first initial of the first name and lowercase first initial of last name. Example: pin of 149299 for Marcia Smith would be 149299Ms.

**Using D2L:**
For help with D2L including how to submit materials to a Dropbox, see the Tech Tube page [new window].

**Technical Support/Assistance:**
Students having problems logging into a course, timing out of a course, using course web site tools, or any other technical problems, should contact the MSCC Technology Help Desk at 931-393-1510 or toll free 1-800-654-4877, Ext. #1510 (or d2lhelp@mscc.edu).

**Disability Services/Accommodations:**
Motlow College is committed to meeting the needs of qualified students with disabilities by providing equal access to educational opportunities, programs, and activities in the most integrated setting appropriate. This commitment is consistent with the College’s obligations under Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990 (ADA). Together, these laws prohibit discrimination against qualified persons with disabilities. To this end, the Director of Disability Services for Motlow College coordinates services and serves as an advocate and liaison for students with disabilities attending Motlow College. Click here for the Disability Services page [new window].

**IMPORTANT NOTE:** Students with disabilities who would need assistance in an emergency evacuation should self-disclose that need to the instructor no later than the second day of class or second group meeting.

**Confidentiality of Student Records:**
The education records of current and former students at Motlow State Community College are maintained as confidential records pursuant to The Family Educational Rights and Privacy Act (FERPA) of 1974 as amended.

**Student Success:**

**Tutoring:**
MSCC Instructors can guide students to specific resources regarding tutoring in their discipline. In particular, students may find help with math and essay writing via each campus’ Learning Support labs. Students should contact the labs on their campus to schedule appointments for help. Click here for Student Success information [new window].

**Academic Advisement:**
MSCC Instructors can guide students to specific resources regarding Advisement and other help needed for success. Click here for Completion Coach information [new window].

Students are encouraged to utilize the Mathematics Lab for additional help.
Class Schedule of Assignments:

The following outline is provided as suggested guidance for pacing and progress in this course. An individual instructor may adjust this outline for class purposes as s(he) deems necessary.

<table>
<thead>
<tr>
<th>Week</th>
<th>Course Objective(s)</th>
<th>Content to be Covered</th>
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</thead>
<tbody>
<tr>
<td>I.</td>
<td>1</td>
<td>Sec.s 2.2, 2.3, 2.4</td>
</tr>
<tr>
<td>II.</td>
<td>2,3,11</td>
<td>Sec.s 3.2, 3.3, 3.4</td>
</tr>
<tr>
<td>III.</td>
<td></td>
<td><strong>Test 1</strong></td>
</tr>
<tr>
<td></td>
<td>4-6</td>
<td>Sec.s 4.2, 4.3</td>
</tr>
<tr>
<td>IV.</td>
<td>4-8</td>
<td>Sec.s 4.4, 4.5, 4.6</td>
</tr>
<tr>
<td>V.</td>
<td>9</td>
<td><strong>Test 2</strong></td>
</tr>
<tr>
<td>VI.</td>
<td>2,3,10-12,14</td>
<td>Sec.s 6.2, 6.3, 6.4, 6.5</td>
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<tr>
<td>VII.</td>
<td>9,11-13</td>
<td>Sec 6.7</td>
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<td></td>
<td></td>
<td><strong>Test 3</strong></td>
</tr>
<tr>
<td>VIII.</td>
<td>17,18</td>
<td>Sec.s 7.2, 7.3, 7.4</td>
</tr>
<tr>
<td>IX.</td>
<td>17,18</td>
<td>Sec 7.5</td>
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<td><strong>Test 4</strong></td>
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<tr>
<td>X.</td>
<td>15</td>
<td>Sec.s 8.2, 8.3</td>
</tr>
<tr>
<td>XI.</td>
<td>15,16</td>
<td>Sec.s 8.4, 8.5</td>
</tr>
<tr>
<td>XII.</td>
<td></td>
<td><strong>Test 5</strong></td>
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<tr>
<td></td>
<td>19,20</td>
<td>Sec.s 10.2, 10.3</td>
</tr>
<tr>
<td>XIII.</td>
<td>19</td>
<td>Sec 10.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Test 6</strong></td>
</tr>
<tr>
<td>XIV.</td>
<td></td>
<td>Final Exam Review</td>
</tr>
<tr>
<td>XV.</td>
<td>1-20</td>
<td><strong>Comprehensive Final Exam</strong></td>
</tr>
</tbody>
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Instructor reserves the right to modify course policies.