



Your University of Choice

COURSE SYLLABUS

Term: Fall 2016 (2016-1)

Course: MATH 171 A Principles of Statistics

Instructor Information:	
Instructor Name	Carrie Hutton
Office Number:	302
Phone Number:	219-473-4284
Email:	chutton@ccsj.edu
Hours Available:	M/W 8:30 – 10:00 AM, T/R 12:00 – 1:30 PM, M/T/W/R 3:00 – 4:30 PM, or by appointment *Please note that meetings and appointments can effect these hours. **Additional office hours by appointment.
Instructor Background: B.S. Actuarial Science, Indiana University; M.S. Mathematics and Statistics, Purdue University; M.S.E. Engineering, Purdue University	

Course Information:	
Course Time:	Tuesday and Thursday, 8:30 – 10:00 AM
Classroom:	
Prerequisites:	MATH 103 with a grade of 'C' or better, or an equivalent Accuplacer score
Required Books and Materials:	Bluman; <u>Elementary Statistics</u> ; Ed 9 McGraw-Hill ISBN: 9780078136337 **It is strongly recommended that you have a Texas Instrument 84 (TI-84) for this class.
Learning Outcomes/ Competencies: Through appropriate assessments students will demonstrate that they are able to:	

1. **Remember** the necessary steps and procedures for gathering and interpreting statistical data, graphing data, computing probabilities, sampling, making statistical inferences, and generating correlation and regression relations.
2. **Understand** what each procedure, interpretation, graph, computation, and relation means on a conceptual level.
3. **Apply** their understanding of gathering and interpreting statistical data, graphing data, computing probabilities, sampling, making statistical inferences, and generating correlation and regression relations to solve application problems.
4. **Analyze** problems in physics, economics, business, and biology to determine appropriate methods for solving them using statistical methods and concepts.
5. **Evaluate** proposed solutions with respect to commonly accepted practices used in physics, economics, business, and biology.

Course Description:

This course treats the gathering and interpretation of statistical data presented in various forms. Topics include the graphical and numerical representation of data, probability, sampling, statistical inference, correlation, and regression.

Learning Strategies:

Group discussions, lecture, IXL software, and lots of practice. The objective is to promote your understanding of mathematics concepts and to enable you to apply them in a meaningful way. You are encouraged to rely on logical thinking, rather than on memorization. It is VERY important that you READ the sections of the textbook, STUDY the examples and WORK problems. **Active participation in class** and utilization of services such as the CCSJ Student Success Center will help ensure your success.

It is also suggested that you utilize Khan Academy for additional help on homework outside of the classroom.

<https://www.khanacademy.org/math/probability>

Experiential Learning Opportunities:

Real world Statistics project

Assessments:		
Exams	Chapter Exams (1-2, 3, 4, 5, 6)	40% of grade
Cumulative Final Exam:	Chapter 1 – Chapter 7	20% of grade

Experiential Project:	Please see project description and rubric posted on Blackboard	10% of grade
Textbook Homework:	Assigned Weekly per schedule	15% of grade
IXL Homework:	Assigned Weekly per schedule	15% of grade
Class Participation	<p>Tests and Quizzes:</p> <ul style="list-style-type: none"> • Five <u>chapter tests</u> will be given during the term and <u>one comprehensive final exam</u> during exam week. • You will be allowed to use one piece of paper (8 ½ x 11), one side only, of notes on your chapter tests. • You will be allowed to use one piece of paper (8 ½ x 11), both sides, of notes on your final exam. • You will be allowed to use a calculator on all exams. • You will NOT be allowed to use any electronic devices on an exam (i.e. phone, tablet, etc.). • Please note that you MUST pass your exams to pass this course. • Thoughtful completion of your homework should be done to practice and prepare for your exams. • You will be allowed to drop your lowest CHAPTER EXAM score (NOT final exam score). If you are absent on the day of an exam, that will be your dropped exam score. • There are ABSOLUTELY NO make-up exams for any reason. That is why you are allowed to drop your lowest chapter exam score. (If you have an athletic competition or other important appointment, send me an electronic notice at least 48 hours in advance and you can take the exam BEFORE you peers). <p>Written homework assignments and IXL homework assignments:</p> <ul style="list-style-type: none"> • Homework is critical to your success in this course. The written homework and IXL homework are meant to serve as practice for the exams. • Your written homework should be neat and organized. Problems should be copied from the book and all necessary work should be shown. Answers without work will not be given credit. All written homework from the textbook will be due when you take your exams. • IXL homework will be due each week (see calendar for due dates). You MUST do at least 12 problems 	

	<p>in each assignment, but can do more (before the due date) to raise your IXL homework score.</p> <ul style="list-style-type: none"> • It is expected that you will spend 3 – 5 hours outside of class each week practicing math. You must practice to succeed. • NO LATE HOMEWORK will be accepted, for any reason, period. You are welcome to turn it in early, but never late. 	
Signature Assignments	<p>This General Education class will help you prepare for CCSJ's Signature Assignments, a common written and oral project that students complete in Social Justice as freshmen, Religious Studies as sophomores, and Philosophy as juniors. Signature Assignments are assessed for written communications, oral communications, and critical thinking. You must meet required scores in Religious Studies to move ahead to Philosophy, and in Philosophy to complete your General Education program.</p>	

Responsibilities	
Attending Class	<p>You cannot succeed in this class if you do not attend. We believe that intellectual growth and success in higher education occur through interaction in the classroom and laboratories. However, we do not want to penalize students for participating in college-sponsored events. When you miss class because of a college event, you must give notice of your absence in advance, and you are responsible for all missed work. Being absent doesn't excuse you from doing class work; you have more responsibilities to keep up and meet the objectives of this course.</p> <p style="text-align: center;"><i>Eighty percent of success is showing up.</i> -Woody Allen</p> <p>Attendance is important and is expected. You are responsible for all material covered in class, including announcements of assignments and quizzes. If you miss class, you must contact the instructor by email (chutton@ccsj.edu) within 24 hours. The instructor is more than willing to meet you halfway on this, but remember that there are TWO halves. You are allowed to miss 2 classes, without penalty. After that, every class that you are absent from will result in a one (1) percentage point loss from your final grade. You should 'save' your two absences for emergencies. If you are more than 15 minutes late to class, that will count as an absence. BE PRESENT, BE ON TIME.</p>

Turning In Your Work	You cannot succeed in this class if you do not turn in all your work on the day it is due.
Using Electronic Devices	Electronic devices are out of place in the classroom. Please keep them silent and put away during class. Additionally, NO ELECTRONIC DEVICES OF ANY KIND ARE TO BE USED ON QUIZZES OR EXAMS.
Participating in Class	You must be on time, stay for the whole class and speak up in a way that shows you have done the assigned work. If you are not prepared for class discussion, you may be asked to leave, in which case you will be marked absent.
Doing Your Own Work	<p>If you turn in work that is not your own, you are subject to judicial review, and these procedures can be found in the College Catalog and the Student Planner. The maximum penalty for any form of academic dishonesty is dismissal from the College.</p> <p>Using standard citation guidelines, such as MLA or APA format, to document sources avoids plagiarism. The Library has reference copies of each of these manuals, and there are brief checklists in your Student Handbook and Planner.</p> <p>PLEASE NOTE: All papers may be electronically checked for plagiarism.</p>
Withdrawing from Class	After the last day established for class changes has passed (see the College calendar), you may withdraw from a course by following the policy outlined in the CCSJ Course Catalog.

Resources	
Student Success Center:	The Student Success Center provides faculty tutors at all levels to help you master specific subjects and develop effective learning skills. It is open to all students at no charge. You can contact the Student Success Center at 219 473-4287 or stop by the Library.
Disability Services:	Disability Services strives to meet the needs of all students by providing academic services in accordance with Americans with Disabilities Act (ADA) guidelines. If you believe that you need a “reasonable accommodation” because of a disability, contact the Disability Services Coordinator at 219-473-4349.
CCSJ Alerts:	Calumet College of St. Joseph’s emergency communications system will tell you about emergencies, weather-related closings, or other incidents via text, email, or voice messages. Please sign up for this

	<p>important service annually on the College’s website at: http://www.ccsj.edu/alerts/index.html.</p> <p>In addition, you can check other media for important information, such as school closings:</p> <p>Internet: http://www.ccsj.edu Radio: WAKE – 1500 AM, WGN – 720 AM, WIJE – 105.5 FM, WLS – 890 AM, WZVN – 107.1 FM, WBBM NEWS RADIO 78 TV Channels: 2, 5, 7, 9, 32</p>
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Emergency Procedures

MEDICAL EMERGENCY

EMERGENCY ACTION

1. Call 911 and report incident.
2. Do not move the patient unless safety dictates.
3. Have someone direct emergency personnel to patient.
4. If trained: Use pressure to stop bleeding.
5. Provide basic life support as needed.

FIRE

EMERGENCY ACTION

1. Pull alarm (located by EXIT doors).
2. Leave the building.
3. Call 911 from a safe distance, and give the following information:
 - Location of the fire within the building.
 - A description of the fire and how it started (if known)

BUILDING EVACUATION

1. All building evacuations will occur when an alarm sounds and/or upon notification by security/safety personnel. **DO NOT ACTIVATE ALARM IN THE EVENT OF A BOMB THREAT.**
2. If necessary or if directed to do so by a designated emergency official, activate the building alarm.
3. When the building evacuation alarm is activated during an emergency, leave by the nearest marked exit and alert others to do the same.
4. Assist the disabled in exiting the building! Remember that the elevators are reserved for persons who are disabled. **DO NOT USE THE ELEVATORS IN CASE OF FIRE.**
DO NOT PANIC.
5. Once outside, proceed to a clear area that is at least 500 feet away from the building. Keep streets, fire lanes, hydrant areas and walkways clear for emergency vehicles and

personnel. The assembly point is the sidewalk in front of the college on New York Avenue.

6. **DO NOT RETURN** to the evacuated building unless told to do so by College official or emergency responders.

IF YOU HAVE A DISABILITY AND ARE UNABLE TO EVACUATE:

Stay calm, and take steps to protect yourself. If there is a working telephone, call 911 and tell the emergency dispatcher where you are **or** where you will be moving. If you must move,

1. Move to an exterior enclosed stairwell.
2. Request persons exiting by way of the stairway to notify the Fire Department of your location.
3. As soon as practical, move onto the stairway and await emergency personnel.
4. Prepare for emergencies by learning the locations of exit corridors and enclosed stairwells. Inform professors, and/or classmates of best methods of assistance during an emergency.

HAZARDOUS MATERIAL SPILL/RELEASE

EMERGENCY ACTION

1. Call 911 and report incident.
2. Secure the area.
3. Assist the injured.
4. Evacuate if necessary.

TORNADO

EMERGENCY ACTION

1. Avoid automobiles and open areas.
2. Move to a basement or corridor.
3. Stay away from windows.
4. Do not call 911 unless you require emergency assistance.

SHELTER IN PLACE

EMERGENCY ACTION

1. Stay inside a building.
2. Seek inside shelter if outside.
3. Seal off openings to your room if possible.
4. Remain in place until you are told that it is safe to leave.

BOMB THREATS

EMERGENCY ACTION

1. Call 911 and report incident.
2. If a suspicious object is observed (e.g. a bag or package left unattended):
 - Don't touch it!

- Evacuate the area.

TERRORISM AND ACTIVE SHOOTER SITUATIONS

EMERGENCY ACTION

1. Call 911 and report intruder.

RUN, HIDE OR FIGHT TIPS:

1. **Prepare** – frequent training drills to prepare the most effectively.
2. **Run and take others with you** – learn to stay in groups if possible.
3. **Leave the cellphone.**
4. **Can't run? Hide** – lock the door and lock or block the door to prevent the shooter from coming inside the room.
5. **Silence your cellphone** -- use landline phone line.
6. **Why the landline?** It allows emergency responders to know your physical location.
7. **Fight** – learn to “fight for your life” by utilizing everything you can use as a weapon.
8. **Forget about getting shot – fight!** You want to buy time to distract the shooter to allow time for emergency responders to arrive.
9. **Aim high** – attack the shooter in the upper half of the body: the face, hands, shoulder, neck.
10. **Fight as a group** – the more people come together, the better the chance to take down the shooter.
11. **Whatever you do, do something** – “react immediately” is the better option to reduce traumatic incidents.

Course Schedule:

I reserve the right to change this schedule to meet the needs of the class.

Date	Topic	Homework Assigned	Homework Due Date/Time
9-6-16	Introduction to class Chapter 1: The Nature of Probability and Statistics	Textbook (TB) p.34 Review Exercises #2-58 even IXL Algebra I: JJ.2 – Experimental probability JJ.4 – Identify independent and dependent events	9-20-16 at the beginning of class (Exam I) 9-12-16 by 10 pm
9-8-16	Chapter 2: Frequency Distributions	TB p. 101 Review Exercises #1-26 all IXL Algebra I: N.1 – Interpret bar graphs, line graphs, and histograms N.2 – Create bar graphs, line graphs, and histograms N.3 – Circle graphs N.4 – Interpret stem and leaf plots N.5 – Interpret box and whisker plots	9-20-16 at the beginning of class (Exam I) 9-19-16 by 10 pm
9-13-16	Chapter 2: Frequency Distributions	Continue with Chapter 2 homework	

9-15-16	Recitation – bring homework questions		
9-20-16	Exam I – Chapter 1 and Chapter 2	None	All Textbook homework is due TODAY, at the BEGINNING of class. NO LATE HOMEWORK will be accepted
9-22-16			
9-27-16	Chapter 3: Data Description	<p>TB p.178 Review Exercises #1 – 28 all</p> <p>IXL Algebra I: KK.2 – Mean, median, mode, and range KK.3 – Quartiles KK.4 – Identify an outlier KK.5 – Identify an outlier and describe the effect of removing it KK.9 – Outliers in scatter plots KK.6 – Mean absolute deviation KK.7 – Variance and standard deviation</p>	<p>10-6-16 at the beginning of class (Exam II)</p> <p>10-3-16 by 10 pm</p>
9-29-16	Chapter 3: Data Description	Continue with Chapter 3 homework	
10-4-16	Recitation – bring homework questions		
10-6-16	Exam II – Chapter 3	None	All Textbook homework is due TODAY, at the BEGINNING of class.

			NO LATE HOMEWORK will be accepted
10-11-16	Chapter 4: Probability and Counting Rules	<p>TB p. 247 Review Exercises #1-45 all</p> <p>IXL Algebra II: CC.1 – Introduction to probability CC.2 – Calculate probabilities of events CC.5 – Find probabilities using combinations and permutations CC.9 – Find conditional probabilities CC.10 – Independence and conditional probability CC.11 – Find conditional probabilities using two way frequency tables CC.12 – Find probabilities using addition rule</p> <p><u>Approved Research Question and Groups submitted to instructor, in writing</u></p>	<p>10-25-16 at the beginning of class (Exam III)</p> <p>10-24-16 by 10 pm</p> <p><u>TODAY</u></p>
10-13-16	Chapter 4: Probability and Counting Rules	Continue with Chapter 4 homework	
10-18-16	Chapter 4: Probability and Counting Rules	Continue with Chapter 4 homework	
10-20-16	Recitation – bring homework questions		

10-25-16	Exam III – Chapter 4	None	All Textbook homework is due TODAY, at the BEGINNING of class. NO LATE HOMEWORK will be accepted
10-27-16	Chapter 5: Discrete Probability Distributions	<p>TB p. 304 Review Exercises #1-33 all</p> <p>IXL Algebra II: CC.13 – Identify discrete and continuous random variables CC.14 – Write a discrete probability distribution CC.15 – Graph a discrete probability distribution CC.16 – Expected values of random variables</p> <p>IXL Pre Calculus: Y.9 – Find probabilities using the binomial distribution</p>	<p>11-10-16 at the beginning of class (Exam IV)</p> <p>11-7-16 by 10 pm</p>
11-1-16	Chapter 5: Discrete Probability Distributions	Continue with Chapter 5 homework	
11-3-16	Chapter 5: Discrete Probability Distributions	Continue with Chapter 5 homework	
11-8-16	Recitation – Bring homework questions		
11-10-16	Exam IV – Chapter 5	None	All Textbook homework is due

			TODAY, at the BEGINNING of class. NO LATE HOMEWORK will be accepted
11-15-16	Chapter 6: The Normal Distribution	TB p. 362 Review Exercises #1-22 all IXL Pre Calculus: Y.11 – Find probabilities using the normal distribution Y.12 – Find z-values Y.16 – Use normal distributions to approximate binomial distributions	11-29-16 at the beginning of class (Exam V) 11-28-16 by 10 pm
11-17-16	Chapter 6: The Normal Distribution	Continue with Chapter 6 homework	
11-22-16	Recitation – bring homework questions		
11-24-16	No Class in honor of the Thanksgiving holiday		
11-29-16	Exam V – Chapter 6	None	All Textbook homework is due TODAY, at the BEGINNING of class. NO LATE HOMEWORK will be accepted
12-1-16	Chapter 7: Confidence Intervals and Sample Size	TB p. 407 Review Exercises #1-16 all	Final Exam day at the beginning of class
12-6-16	Chapter 7: Confidence Intervals and Sample Size	Continue with Chapter 7 homework	
12-8-16	Project Presentations		

	Review for final exam		STUDY!!!
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Week of 12-12-16	Final Exam (We will follow the CCSJ final exam schedule, to be released at a later date)		<p>All Textbook homework is due TODAY, at the BEGINNING of class. NO LATE HOMEWORK will be accepted</p> <p>Congrats! You have finished the semester!</p>
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