

## STAT 200 ELEMENTARTY STATISTICS

*“This course will cover descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.” 4 credits*

Prerequisite: 2 units in algebra

### Objectives:

In this course you will gain problem solving skills that will allow you to decide for yourself if research involving data is trustworthy or not. Mathematical calculations are necessary but more important is interpreting the values computed. At the end of the semester you will be able to organize data using numerical and graphical summaries, apply properties to data based on the distribution that it follows, make calculations that prove or disprove a hypothesis, interpret the trend in new data compared to a previous standard, diagnose the trustworthiness of inference, collect data without bias and diagnose bias in collected data.

<b>Faculty Contact:</b>  Jenny Shook 416 Thomas (814) 865-6164  Email: Use ANGEL: “Instructors”  Office hours:	<b>TA information:</b>       Office hours:
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### Materials:

*Textbook:* Utts and Heckard’s *Mind On Statistics* Third Edition, Thomson and the included CD.

*Calculator:* Any kind that can compute a square root (graphing ok) – cell phones prohibited.

*Essentials:* Notebook or paper to take notes on lectures, to work out problems in class; pen, pencil, eraser, etc.

*Computer:* Two days each week you will have the use of a computer in class (lab). Outside of class, most computer labs on campus can provide the same information as do the ones in class. You will need to access ANGEL regularly for all course information.

### Course Format:

You are encouraged to travel through the world of statistics with your classmates. Each week you will receive a reading assignment. The lecture will present concepts and examples that illustrate the concepts in the reading assignment. At the end of each lecture, a brief activity is to be completed and turned in before the end of that class as attendance. The following two classes will be time for the teacher and classmates to work together through examples illustrating concepts from the reading using statistical software to solve the problems. Weekly practice chapter quizzes in ANGEL and weekly homework is due online in ANGEL quizzes, all to be completed outside of class. Projects are assigned throughout the semester with time to work on them in class and are to be completed outside of class, graded by project quizzes. Unit exams will be given throughout the semester in the e-testing center during a time you schedule. A cumulative final exam will be given as scheduled by the University.

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### Work load:

Print out the calendar at the end of this syllabus and the “assignments” document on ANGEL and refer to them regularly. Please check ANGEL regularly for new information, announcements and course emails. Each week you will have a reading assignment, an online quiz, and a set of homework questions from the textbook to submit online. Projects are to be completed outside of class with class time for discussion of ideas. Because the activities may be worked on in class, you are expected to work together with your classmates while maintaining your own individuality in your work.

### Course Policies:

Reading assignments, lectures, and study guides are posted on ANGEL. You are encouraged to print out and review each lecture before it is presented in class, bringing a printout to the lecture to assist you in following along. Printing out the lecture activity before class is a requirement. Homework quizzes, chapter quizzes, project quizzes and exams will be graded online for immediate feedback and are subject to change based on Mrs. Shook’s approval. Failure to follow directions correctly will result in no score for that quiz or exam. Lecture and lab activities will be graded for attempt but not accuracy as attendance. Grades will be updated monthly on ANGEL.

You are expected to complete all your own work in a collaborative setting. Please remember that copying anyone else’s work is considered cheating. As a reminder, the University has a policy on academic honesty. You are expected to abide by the procedures set forth in the University’s document at <http://www.psu.edu/dept/ufs/policies/47-00.html#49-20> . Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact us personally as soon as possible, so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunity.

### Assignments:

Lab and lecture activities are available prior to their due date on ANGEL. Lab activities must be turned in (one per person) at the end of each lab period to the designated drop box (complete submissions only) in ANGEL. Lecture activities must be turned in at the end of each lecture period (one per person) to the front of the classroom. Late assignments are not accepted for credit. Solutions will be provided a day later on ANGEL. There are 13 lecture activities and 22 lab activities, each worth 2 points as an attendance score.

Practice chapter quizzes will be taken weekly through ANGEL outside of class and cannot be made up; late quizzes are not accepted. Each of the 11 quizzes is due by **5pm** on Thursdays and each quiz is worth 10 points.

Homework is assigned weekly from the textbook. Answers will be submitted online in the format of a quiz on ANGEL. Each assignment is due by **5pm** on Tuesdays. Please complete each homework assignment and have your work ready before you access the quiz. Each of the 13 assignments is worth 10 points. Late homework will receive no score. Do not wait until the due day to start the assignment as it is available now, on ANGEL on the assignments document.

Project quizzes must be submitted on the due date by **10pm**; one quiz (1 chance only) is given for each project. Please complete each project and have your work ready, saved on the computer on which you access the quiz before you start the quiz. Answer quiz questions based on your completed assignment. If working in a group, each group member must submit their own quiz. Group members not submitting a quiz will receive no score. Quizzes not submitted will not count. Be sure to press the

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SUBMIT button before the due time. Late project quizzes are not accepted. The first four projects are worth 50 points each and the last project is worth 100 points.

Exams are given in the e-testing lab with available time slots throughout the week. All exams will be given in fifty minute sessions between 8am and 10pm. You will have to sign up to take the exam at <https://clc.its.psu.edu/eTesting/Students>. If you know ahead of time that you will miss an exam due to a documentable extenuating circumstance, you must notify Mrs. Shook prior to the exam and you must schedule a re-take time within one week (contact Mrs. Shook for the e-testing reschedule time). Each semester exam is 25 multiple choice questions. All necessary tables will be provided as is scrap paper that must be turned in before you leave. You may bring a calculator and writing utensil. Also, a front and back of one 8.5”X11” sheet of handwritten notes is allowed for each exam, to be turned in at the end of the exam. Each of the four exams is worth 100 points. Please read about the testing center and their policies at <http://www.testing.psu.edu/students.html>.

The cumulative final exam will be scheduled by the University. You must take the final exam at the scheduled time (or during the conflict time if you schedule for one). All necessary tables will be provided as is scrap paper. You may bring a calculator and writing utensil. Also, two 8.5”X11” sheets of handwritten notes are allowed (front and back). The final exam is worth 100 points.

### Grading Tables:

<i>What?</i>	<i>Points</i>
Homework	130
Quizzes	110
Exams	400
Activities	70
Projects	300
Final Exam	100
<b>Total</b>	<b>1110</b>

<b><i>Total Points</i></b>	<b><i>Letter Grade</i></b>
930 and above	A
900-929	A-
870-899	B+
830-869	B
800-829	B-
770-799	C+
700-769	C
600-699	D
Below 600	F

### Semester Schedule Key:

Black text = Class information

Purple text = Quiz due by 5pm

Orange text = A project is being worked on during class or its quiz is due that day by 10pm

Blue text = Exam for which you need to schedule a time slot at the testing center

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## Semester Schedule:

Monday	Tues	Wednesday	Thurs	Friday
Aug 24		26	27	28
Syllabus, Lecture 1		Lecture 2	Quiz 1 due	Lab Ch 1 and 2
31	Sept 1	2	3	4
Project 1	HW 1 due	Lecture Ch 3 and 4	Quiz 2 due	Lab Ch 3 and 4 Project 1 due
7	8	9	10	11
No classes	HW 2 due	Lecture Ch 5	Quiz 3 due	Lab 5a
14	15	16		18
Lab 5b	HW 3 due	Lecture Ch 6 Exam 1		Lab Ch 6 Exam 1
21	22	23	24	25
Project 2	HW 4 due	Lecture Ch 7	Quiz 4 due	Lab 7a Project 2 due
28	29	30	Oct 1	2
Lab 7b	HW 5 due	Lecture Ch 8a	Quiz 5 due	Lab Ch 8a
5	6	7		9
Project 3	Project 3 due	Lecture Ch 8b Exam 2		Lab Ch 8b Exam 2
12	13	14	15	16
Project 4	HW 6 due	Lecture Ch 9	Quiz 6 due	Project 4 Project 4 due
19	20	21	22	23
Lab Ch 9	HW 7 due	Lecture Ch 10	Quiz 7 due	Lab Ch 10a
26	27	28	29	30
Lab Ch 10b	HW 8 due	Lecture Ch 11	Quiz 8 due	Lab Ch 11a
Nov 2	3	4		6
Lab Ch 11b	HW 9 due	Lecture Ch 12 Exam 3		Lab Ch 12a Exam 3
9	10	11	12	13
Lab Ch 12b	HW 10 due	Lecture Ch 13	Quiz 9 due	Lab Ch 13a
16	17	18	19	20
Lab Ch 13b	HW 11 due	Lecture Ch 14 and 15	Quiz 10 due	Lab Ch 14, Project 5
30	Dec 1	2		4
Lab Ch 15, Project 5	HW 12 due	Lecture Ch 16 Exam 4		Lab Ch 16a, Project 5 Exam 4
7	8	9	10	11
Lab Ch 16b, Project 5	HW 13 due	Lecture Ch 17	Quiz 11 due	Project 5 Project 5 due