STATISTICS 200: SECTION 204 (LEAP 097.205)
ELEMENTARY STATISTICS
SUMMER 2006

COURSE DESCRIPTION: Welcome to Stat 200. Statistics is the art and science of using sample data to make generalizations about populations. The objective of this course is to explore basic statistical concepts and procedures for data analysis. Topics covered in this course include methods for:

- collecting and summarizing sample data
- evaluating the accuracy of estimates obtained from sample data
- making statistical inferences about populations

What you should discover is that statistics is not just another math course. While you will be exposed to new terminology and concepts, much of the time you will use statistical software to solve problems that require quantitative solutions. Basic algebra is the only prerequisite.

Because this course is being offer as a LEAP pride in conjunction with Bioethics 83S, there will be slight change in the topics that will be covered so that some connections can made between the two courses.

INSTRUCTOR:

- **Name:** Patricia (Pat) M. Buchanan
- **Office:** 309 Thomas Building
- **Office Hours:** usually available until 3:00 PM (most days)
- **Phone:** (814)-865-6266
- **Email:** send email inside **Angel Website** under **"In Touch"**

ROOMS & TIME (Some Weeks Rooms will Vary):

- MWF 11 Life Science (11:10- 12:25) - lecture
- TR 7 Life Science 11:10- 12:25) - lab

REQUIRED MATERIALS

1. Printed textbook, **Mind on Statistics**, **2nd Edition**. by Utts and Heckard
2. Calculator (to do homework, complete lab activities, and possibly with exams).

COURSE WEB SITE (ANGEL): https://cms.psu.edu

In order to participate in this class, you need to be willing to regularly use the ANGEL web site. This includes sending email under "**In Touch"**. On this ANGEL web site**,** you will also find:

- Course Syllabus & Course Calendar
- Solutions to assigned homework problems
- Weekly Agenda's (including assigned homework and readings)
- Study Guides for Exams
- Project Guidelines
- Last-Minute Announcements when necessary
- Solutions for exams
- Lab Activities & Lab Activity Quizzes available for review after completed
- Data sets for Lab Activities & Projects
- Grades (posted by last four digits of student number)

GENERAL TOPICS COVERED IN STAT 200

- Overview of Statistics: Definition, Populations, & Samples
- Basics of Experimental Design
- Binomial Distributions, Normal Distributions, & Sampling Distributions
- Descriptive And Inferential Methods for:
  1. One Quantitative Variable (One, Two, and More Than Two Samples)
  2. One Categorical Variable (One, Two, and More Than Two Samples)
  3. Two Different Quantitative Variables & Two Different Categorical Variables
- Statistical literacy topics (covered in LEAP course)

BOOK COVERAGE

- **Chapters 1 & 2 (all Sections)**
- **Chapter 3 Sections 3.1 – 3.3**
- **Chapter 4 Section 4.1**
- **Chapter 5 (all Sections)**
- **Chapter 6: Sections 6.1, 6.2, & 6.5**
- **Chapter 8: Sections 8.1-8.4, 8.6**
- **Chapter 9: Sections 9.1, 9.2, 9.7, 9.8**
- **Chapters 10-13 (all Sections)**
- **Chapter 14: Sections 14.1–14.3,**
- **Chapter 15: 15.1 & 15.2, & Chapter 16: Sections 16.1-16.2**
- **Additional Chapters may also be covered**

COURSE REQUIREMENTS

Exams

- will be a combination of multiple choice & show your work (including writing out conclusions and interpretations)

Group Projects (2 or 3 people)

- **Project 1:** complete about midway though the summer session
- **Project 2:** complete last week of summer session (capstone experience)
- **Need** to both follow instructions and be statistically accurate to achieve points
- **Need to be accountable for contribution to project**

Homework

- A total of 5 will be given though out the summer session (best 4 will count)
- **Late homework's will not be accepted**
- Due at the beginning of class

Lab Activity Quizzes (Automated – On-Line – During Class)

- 10 will be given throughout the summer session (best 8 will count)
- Consist of 20-30 questions based on concepts covered in lectures and lab activities
- Can check scores inside Angel under "Tools"

ACADEMIC INTEGRITY includes a commitment to not engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the Penn State community and compromise the worth of work completed by others. This course will follow the guidelines found under Academic Integrity (Section 49-20) of the University Faculty Senate Policies for Students. This information is located on the course website.

THE PENN STATE HONOR CODE: "A good name is earned by fair play, square dealing and good sportsmanship in the classroom, on the athletic field and in all other college relations. We earnestly desire that this spirit may become a tradition at Penn State."

DISABILITY POLICY: It is Penn State's policy to not discriminate against qualified students with documented disabilities in its educational programs. If you have a disability-related need for modifications in the course, contact both the instructor and the Office for Disability Services (116 Boucke) at the beginning of the summer session.

TABLE 1: IMPORTANT DATES

Course Requirement	Dates
Content Knowledge Test	• Wed June 28 (Pretest) – does not count toward grade
Exams	• Tuesday July 18 • Friday August 4
Project 1	• Wed July 19 (Start) - Fri July 21 • Due on Mon July 24
Project 2 (Capstone Experience – done in place of a final)	• Mon Aug 7 (Start) – Wed Aug 9 • Due by Fri Aug 11
Homework Due Dates	• Thurs July 6 • Wed July 12 • Mon July 17 • Wed July 26 • Mon July 31

TABLE 2: SUMMARY OF COURSE REQUIREMENTS

Requirement	Points/ Single Effort	Overall Points	Overall Percent (%)
In-Class Exams (2)	100	200	25%
Projects (2)	120	240	30%
Lab Activity Quizzes (keep best 8 out 10)	30	240	30%
Homeworks (keep best 4 out of 5)	30	120	15%
Total		**800**	**100%**

FINAL GRADES: Final grades will be based on 800 possible points, i.e. (800 points = 100%). It may be possible to achieve additional points on exams so that your final total could exceed 800 points. Point ranges for final grades are found in **Table 3.**

MAKE-UP POLICY: In general make-ups will not be given. Specifically no make-ups will be allowed on any course requirement that has a drop option. **Exams:** If you have University-related excuse or religious conflict, you must provide appropriate documentation prior to the exam.

TABLE 3: POINT RANGES FOR FINAL GRADES

Final Grade	Point Totals	Percents
A	740-800 points	(92.5 to 100)%
A-	716-739 points	(89.5 to 92.4)%
B+	692-715 points	(86.5 to 89.4)%
B	652-691 points	(81.5 to 86.4)%
B-	636-651 points	(79.5 to 81.4)%
C+	600-637 points	(75.0 to 79.4)%
C	552-601 points	(69.0 to 74.9)%
D	464-551 points	(58 to 68.9)%
F	<551 points	< (58)%

Free Tutoring

- Available at University Learning Center (ULC)
- Website: www.ulc.psu.edu