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## STATISTICS 200: SECTIONS 1-4 ELEMENTARY STATISTICS: FALL SEMESTER 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 that are used with 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 prerequisites.

**INSTRUCTOR:**

- **Name & Office Location:** Patricia M. Buchanan at 309 Thomas
- **Office Hours:** See availability schedule on course web site
- **Phone:** (814)-865-6266
- **Email:** *must always* send email inside the **Angel Website** under “In Touch”

**TABLE 1: ROOMS & TIMES\***

Section	Lecture (Mon)	Computer Labs (Tues & Thurs)
Section 1	111 Forum 9:05 AM	214 Boucke: 8:00 AM
Section 2	111 Forum: 9:05 AM	214 Boucke: 9:05 AM
Section 3	111 Forum: 9:05 AM	214 Boucke: 10:10 AM
Section 4	111Forum: 9:05 AM	214 Boucke: 11:15 AM

\*Note: The Wed classes will be used for optional help sessions. Info on Weekly Agenda

**COURSE FORMAT**

- **Overview Lectures (Mon at 9:05 in 101 Thomas)**
  1. **PowerPoint slides** will be posted in advance – bring a copy to the lecture
  2. Presented Information will be applied in labs, quizzes, exams, and projects
- **Computer Labs (Tues & Thurs in 214 Boucke at Scheduled Times)**
  1. Complete “activities” in small groups based on lectures & readings
  2. Activities will include both data analysis & concept illustration often requiring the use of the statistical software package: Minitab
  3. **Be prepared to learn** - bring your textbook, calculator, & Mon notes
  4. **Lab Activity Quizzes** will be taken at the end of each lab
  5. Some labs will be reserved for completing group projects & taking exams/quizzes
- **Wed Help Sessions:** can attend any available session.

**REQUIRED MATERIALS: (Copy of Textbook found on Reserve in Pattee)**

1. Printed textbook, **Mind on Statistics, 3<sup>rd</sup> Edition**. by Utts and Heckard
2. Available on web at: [www.ichapters.com](http://www.ichapters.com)
3. Calculator (to complete homework assignments & lab activity calculations)

**TEACHING ASSISTANT: (name, office location, & office hours posted on the course web site).**

The TA will:

- oversee thurs computer labs
- assist with Wed help sessions
- handle all grade issues including UTS reports/scantron problems and calculations
- handle all issues surrounding projects & homework: submissions, grading, & returns
- handle all make-up exams and quizzes when following course guide lines

## 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 Response Variable (One, Two, and More Than Two Samples)
  2. One Categorical Response Variable (One, Two, and More Than Two Samples)
  3. Two Different Quantitative Variables & Two Different Categorical Variables

## BOOK COVERAGE

- Chapter 1 (all sections)
- Chapter 2 (all sections)
- Chapter 3 Section 3.2
- Chapter 4 Sections 4.1-4.3
- Chapter 5 (all Sections)
- Chapter 6: Sections 6.1, 6.2, & 6.4
- Chapter 8: Sections 8.1-8.4, 8.6
- Chapter 9: Sections 9.1, 9.2, 9.6, 9.9
- Chapters 10 (all sections)
- Chapter 11: Sections 11.1 to 11.4
- Chapter 12: Sections 12.1 -12.4
- Chapter 13: Sections 13.1 - 13.5
- Chapter 14: pages 612 -- 613,
- Chapter 15: Sections 15.1 & 15.2,
- Chapter 16: Sections 16.1-16.2

**COURSE WEB SITE (ANGEL):** <https://cms.psu.edu>: On this web site, you will find posted:

- course syllabus & course calendar
- solutions to assigned homework problems, exams, & quizzes
- weekly agenda's (including assigned homework)
- study guides for exams & quizzes (posted at least one week in advance)
- power point slides (bring to class on monday)
- announcements & email correspondence
- (Instructor & TA) information & availability
- Lab activities & Lab Activity Quizzes: available for review after completed

**COURSE AGREEMENT:** This syllabus serves as an agreement that begins on the first day of class & ends upon completion of the scheduled final. With this course, you are responsible for:

- anything discussed in class & posted on the **ANGEL** website
- sending & replying to all course email inside the **Angel under "In Touch"**
- taking all exams & quizzes, including the final, during the scheduled time.
- coming to the class prepared to learn (at both lecture and lab)
- accepting the limited make-up policy
- seeking appropriate & timely help if having problems
- accepting that final grades will **not** be changed for purposes of maintaining financial aid and/or academic progress. (also grades will **not** be curved)
- accepting that individual extra credit will not be allowed
- keeping track of all of your grades (instructor does not calculate grades)
- accepting that deferred grades will only be considered for circumstances that occur near the end of the semester
- finding enough time to make the appropriate commitment to the course

**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 semester.

## COURSE REQUIREMENTS

### Individual & Group Quizzes

- **Individual Quiz** will consist of 14-16 multiple choice questions
- **Group Quiz** will be on the same set of questions & taken with a group of about 3-4 students after the individual quiz is submitted
- Quizzes will cover topics presented in: 1) lecture, 2) lab, 3) homework, & 4) assigned readings. Study guides will be posted in advance
- **Refer to limited make-up policy**

### Exams and Final

- **Exams (including Final):** will be multiple choice with study guides posted in advance
- **Do not** make plans to leave campus prior the scheduled final during final's week
- **Refer to limited make-up policy**

### Group Projects (Groups of 3 to 4 people)

- **Project 1:** complete week before spring break
- **Project 2:** complete last two weeks of the semester (capstone experience)
- **Need** to both follow instructions and be statistically accurate to achieve points
- **Need to be accountable for contribution to project** (other group members can refuse to put your name on a project if you don't sufficiently contribute)

### Homework

- TA handle all homework issues
- A total of 8 assignments will be given though out the semester (best 6 will count)
- **Late homework's will not be accepted** under any circumstances
- Due on Thurs at the beginning of lab (TA's will collect & return)
- Must follow directions for full credit

### Lab Activity Quizzes (Automated – On-Line)

- 17 quizzes will be given throughout the semester (lowest 3 will be dropped)
- must take in lab during scheduled times in schedule lab room
- lab activity scores that come from computers outside 214 Boucke will be deleted
- **No make-ups given under any circumstances** because automated & drops
- Consist of 12 -16 questions based on concepts covered in lectures and activities
- Can check recorded 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.

### 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."

### COURSE CONDUCT: For an effective class experience:

Take time to listen to what is said  
One person speaking at a time

Leave your cell phones and pagers turned off

Each person has insights to offer

Ask questions – your question may open the door to understanding for others

Respect each person's contributions

Never forget that your education continues after this class ends

**TABLE 2: IMPORTANT DATES**

Course Requirement	Dates
Exams	<ul style="list-style-type: none"> <li>Thurs Oct 12 &amp; Mon Nov 20</li> </ul>
Final Exam (During Final's Week)	<ul style="list-style-type: none"> <li>TBA on Elion (do not make plans to leave early)</li> </ul>
Individual & Group Quizzes	<ul style="list-style-type: none"> <li>Thurs Sept 21 &amp; Thurs Oct 5</li> <li>Thurs Oct 26 &amp; Thurs Nov 9</li> </ul>
Project 1	<ul style="list-style-type: none"> <li>Tues Oct 16 (Start)</li> </ul>
Project 2 (Capstone Experience)	<ul style="list-style-type: none"> <li>Thurs Nov 30 (Start)</li> </ul>

**TABLE 3: SUMMARY OF COURSE REQUIREMENTS**

Requirement	Pts/Effort	Overall Pts	Overall Percent
In-Class Exam (1)	100	100	10.2%
In-Class Exam (2)	100	100	10.2%
Final Exam (selectively comprehensive)	100	100	10.2%
Project (1)	60	60	6.0%
Project (2) – Capstone Experience	90	90	9.2%
Individual Quizzes (keep best 3 of 4)	60	180	18.4%
Group Quizzes (keep best 3 of 4)	30	90	9.2%
Lab Activity Quizzes (keep best 14 out of 17)	10	140	14.3%
Homework (best 6 out of 8)	20	120	12.3%
<b>Total</b>		<b>980</b>	<b>100.0%</b>

**FINAL GRADES:** Final grades will be based on 980 possible points, i.e. (980 points = 100%). Point ranges for final grades are found in **Table 3**. Do not expect these point ranges to be curved because adjustments will be made along the way if appropriate. Keep track of your points.

**MAKE-UP POLICY:** In general make-ups will not be given. Specifically:

- **TA's will handle all make-up exams & individual quizzes with legitimate excuses.** Please contact assigned TA well in advance. Information will be available on the course web site.
- **Lab Activity Quizzes: no make-ups under any circumstance** because drops are in place & the quizzes are automated
- **Individual & Group Quizzes:** If you have University-related excuse or religious conflict, you must provide appropriate documentation prior to the quiz. Arrangements will be made at that time. Other circumstances will not be considered because of one being dropped. **Late-Make-ups will not be given under any circumstance.**
- **Exams:** If you have University-related excuse or religious conflict, you must provide appropriate documentation prior to the exam. Arrangements will be made at this time. If you are legitimately sick or have a family emergency, you will have to use the percent that you receive on the final as a replacement for the missed exam. (However, this can option can only be used with one Exam.) **Late exams will not be given under any circumstance.**
- You **will not** be able to negotiate anything that you missed at the end of the semester.

**TABLE 4: POINT RANGES FOR FINAL GRADES**

Final Grade	Point Totals	Percents
A	(907-980+) points	(92.5 to 100+)%
A-	(877-906) points	(89.5 to 92.4)%
B+	(848-876) points	(86.5 to 89.4)%
B	(799-847) points	(81.5 to 86.4)%
B-	(779-798) points	(79.5 to 81.4)%
C+	(735-778) points	(75.0 to 79.4)%
C	(681-734) points	(69.5 to 74.9)%
D	(578-680) points	(59 to 69.4)%
F	< 578 points	< (59)%