SYLLABUS: PSY 302, Statistical Methods

Professor: Dr. Holly Arrow **Phone:** 346-1996
Office: 357 Straub **Office Hours:** Tues 3-4, Wed 12-1 & by appt.
Home page: http:\\www.darkwing.uoregon.edu\~harrow

Class Sessions: MWF 11 AM, 341 Gilbert

Teaching Assistants:
Shuyeu Lin **Phone:** 346-4969
Office: 355 Straub **Office Hours:** Fri 2-3 & by appt.
Lab Session: 13:00 Friday, 248 Gerlinger

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Lab Session: 12:30 Tuesday, 142 Straub
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General E-Mail: **harrow@oregon** Use for feedback and questions.

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Course Description: The purpose of this course is to introduce you to inferential statistics, teach you fundamental skills in generating and interpreting statistics, and make you a more sophisticated and critical consumer of statistical information.

COURSE REQUIREMENTS

1. **Participation**. Attendance at class and lab is required. Participation includes **Feedback.** Each week except for midterm and dead weeks, members of each virtual group will be responsible for giving feedback by e-mail. This counts as participation.

2. **Homework.** Five sets, handed out and collected in lab. Homeworks will be mainly problem sets from your text. Completed homework with all work shown and explained will earn full credit, even if answers are wrong, but correct answers ARE preferable.

3. **Quizzes.** Quizzes 1 & 2 will be short-answer format, will focus on understanding concepts, and **WILL be graded.**

4. **Exams.** Midterm week 5; Final on Tuesday, March 18, 10:15 AM. On Exams, only CORRECT and COMPLETE answers will receive full credit. Open book, open notes. Mix of quiz-like questions and homework-like problems. Bring your calculators.

5. **Text.** Gravetter & Wallnau, Essentials of Statistics, 2d ed. Read chapters **BEFORE** class. Lectures and class exercises presume you are caught up with the reading and have questions ready.

** **Bring CALCULATOR & BOOK to class and to exams.** **

GRADES

Midterm exam:	20
Final exam:	40
Homework:	25
Quizzes:	10
Participation:	10
TOTAL points	105

A+	97-105	C	70-73
A	90-96	C-	67-69
A-	87-89	D+	64-66
B+	84-86	D	60-63
B	80-83	D-	57-59
B-	77-79	N	< 67
C+	74-76	P	≥ 67

WHAT COUNTS AS CHEATING:

Your work on EXAMS and QUIZZES must be EXCLUSIVELY your own. This is because the purpose of EXAMS and QUIZZES is to measure what YOU know, not what your neighbor knows.

Cheating on exams means copying the work of others. If detected, cheating will earn you an F or N for the course. NO EXCEPTIONS.

Exams are designed to minimize rewards for undetected cheating and maximize our ability to detect cheating.

WHAT COUNTS AS COLLABORATIVE LEARNING:

You are ENCOURAGED to discuss HOMEWORK with other students and with TAs, and to compare your work with others before turning it in. Homework helps you learn skills by practicing.

Talking over the problems and reworking them when you discover that others got different answers promotes deeper understanding of concepts and gives you more practice in applying skills.

However, each student must submit a SEPARATE homework, showing their work (no photocopies of one another's work!)

BUDDY SYSTEM:

Everyone in class should have a buddy or two. If you notice your buddy is absent, get extra handouts for them, pass along announcements, and share your notes with them. You are responsible for everything we cover in class and lab, even if you weren't there. The buddy system helps make this work.

STAY IN TOUCH!

Come to office hours (make appointment if scheduled hours don't work for you). We have THREE people ready to help you, and classes, lab, or office hours every day of the week.

There are no dumb questions in this class. Speak up in class! Come see us! Send e-mail to harrow@oregon (which we will all be checking). Any question you have, you can be sure someone else has too. Learning is a contact sport.

TENTATIVE COURSE SCHEDULE

Week One

Mon, Jan 6: Orientation & Ch 1 - Intro to Statistics

Wed, Jan 8: Chs 1 & 2 Intro & Frequency Distributions
Assignment: Do skills assessment and math review

Fri, Jan 10: Ch 2 - Frequency Distributions

Week Two

Mon, Jan 13: Ch 3 - Central Tendency

Wed, Jan 15: Ch 4 - Variability

Fri, Jan 17: Ch 5 - z-scores: Location of Scores & Standard Distrib

Week Three

Mon, Jan 20: NO CLASS: **Martin Luther King, Jr. Day**

Wed, Jan 22: Overflow & Review of Chs 1-5 **Quiz # 1**

Fri, Jan 24: Ch 6 - Probability

Week Four

Mon, Jan 27: Ch 7 - Probability and Samples

Wed, Jan 29: Ch 8 - Intro to Hypothesis Testing

Fri, Jan 31: Ch 8 cont. - Intro to Hypothesis testing

Week Five

Mon, Feb 3: Ch 9 - Intro to the t Statistic

Wed, Feb 5: Overflow and Review of Chs 6-9

Fri, Feb 7: **MIDTERM EXAM, covering material from Ch 1-9**

Week Six

Mon, Feb 10: Ch 10 - Hypothesis Tests with Two Independent Samples

Week Six cont.

Wed, Feb 12: Ch 11 - Hypothesis Tests with Related Samples

Fri, Feb 14: Ch 12 - Estimation **Valentine's Day**
TAs will cover lecture today

Week Seven

Mon, Feb 17: Overflow and Review of Chs 10-12
Variance, confidence, time, and how we go astray

Wed, Feb 19: Ch 13 - Intro to Analysis of Variance

Fri, Feb 21: Ch 13 - Intro to Analysis of Variance

Week Eight

Mon, Feb 24: Ch 14 - Correlation and Regression

Wed, Feb 26: Ch 14 - Correlation and Regression

Fri, Feb 28: Ch 14 - Correlation and Regression

Week Nine

Mon, Mar 3: Overflow & Review of Chs 13-14 **Quiz #2**

Wed, Mar 5: Ch 15 - The Chi-Square Statistic

Fri, Mar 7: Ch 15 - The Chi-Square Statistic

Week Ten

Mon, Mar 10: Conceptual Review: Making sense of it all

Wed, Mar 12: Applications Review: Which test to use?
The TAs will handle this review

Fri, Mar 14: General review of problem concepts & applications

Finals Week

FINAL EXAM on Tues, March 18, 10:15 AM, 341 Gilbert (same room).

** **Bring CALCULATOR, BOOK, & NOTES** **

TOP FIVE PITFALLS IN LEARNING STATS:

1. *Passive listening and reading*

Write, draw, figure. Think with a pencil to learn. Turn the concepts into something you do.

2. *Spectator overconfidence*

Watching someone go through the steps is a starting point only. You have to get in the pool to learn how to swim.

3. *Beginner's luck*

Doing it right once doesn't mean you can repeat the trick. Get it wrong to understand how the process works.

4. *Trying to cram*

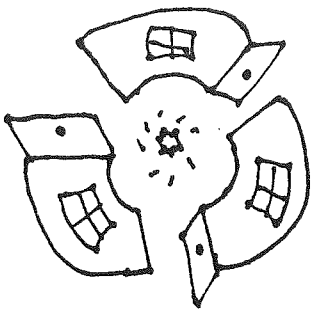
You can cram content, but skills, like water, don't compress. Don't fall behind; it's too hard to catch up.

5. *Giving up because you get stuck.*

Everyone gets stuck. Try a new tack. Ask for help. Play around. Math is all about getting stuck and unstuck.

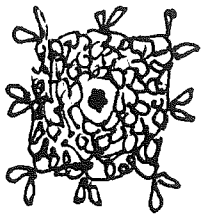
VISUAL METAPHORS FOR STATS PROBLEMS

Circular rooms.



Task: Get into the room & find the solution

Knitwear with fringes.



Task: Unravel the problem to reveal the solution.