

**Instructor:**    **Dr. Leonore Findsen**                      (email: [lfindsen@purdue.edu](mailto:lfindsen@purdue.edu))  
                    **Office: MA 515**                                      **Mailbox: MA 533**

Division:	11/12	9:30 pm – 10:20 pm,	MF: UNIV 119	W: Lab SC 231
	5/6	1:30 pm – 2:20 pm,	MF: UNIV 119	W: Lab HAMP 3144
	9/10	2:30 pm – 3:20 pm,	MF: UNIV 119	W: Lab HAMP 3144

**Graduate Teaching Assistants:**

Ryan Murphy (9:30 am), Qi Wang (1:30 pm), Jincheng Bai (2:30 pm)  
Cheng Li (head TA),

**Office Hours:**

- MW (12:00 pm – 1:00 pm) in my office MA 515, and by appointment.
- Additional office hours managed by course graduate teaching assistants will be held in the **Stat Help Room** located at **HAAS 115**. Office hour schedule will be posted on the class website.
- **SAS/350 Help Session:** 6:45 PM - 8:45 PM on Wednesdays (except during holidays) in BRNG B275

**Learning Outcomes:**

1. Statistical Literacy: Students will be able to use basic terms and symbols, construct graphs, and interpret and analyze statistics in the media.
2. Statistical Reasoning: Students will be able to explain statistical processes and fully interpret statistical results.
3. Big Ideas in Statistics: Students will be able to explain foundational concepts in statistics such as variability, distributions, models etc., and apply these concepts in statistical process.
4. Statistical Thinking: Students will be able to assess statistical problems, and justify and apply statistical methods used to solve the problem.
5. Statistical Computing: Students will be able to analyze data and interpret results using a statistical software package.

**Our statistics philosophy:**

This is not a math class. This is a critical thinking class. Our goal is to help you make wise and educated decisions at work and in life.

*“Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.”* H.G. Wells

**Textbook:**

***Introduction to the Practice of Statistics (8th edition)***, Authors: Moore, McCabe, Craig,

Note: Nothing for this class is in the bookstore

ISBN:

purchase via WebAssign: (WebAssign only, e-textbook included --- **REQUIRED**)

I tried to find a hardcopy version of the book, but the online versions came with CrunchIt and the EESEE Access Card which we are not using. Therefore, if you do want a hard copy, you may either buy it from the bookstore with the StatsPortal access card which we will NOT be using (See Dr. Sellke’s sections) or online with the additional materials.

**WebAssign:**

This is accessed via the link in Blackboard. You have free access until Midnight Aug. 31. After that date, you will have to pay for it via the links on WebAssign. I strongly suggest that you buy both the homework and the e-book. There are additional resources in the e-book including the technology manuals for R and Minitab and other tutorials.

**Book Website:** (<http://bcs.whfreeman.com/ips8e>)

This link is also in Blackboard. From this site, you will be required to download the complete data sets. In addition, there are practice quizzes for each chapter, vocabulary flashcards and the option of downloading the tables from the book in a pdf file.

**Course Website:** ([http://www.stat.purdue.edu/~lfindsen/stat350/stat350\\_f14.html](http://www.stat.purdue.edu/~lfindsen/stat350/stat350_f14.html))

This link is also on Blackboard. All announcements, syllabus, current schedule, tables, slides, information for homework, computer labs, projects, exams and other resources are available in this site

**Discussion Groups:** (<https://piazza.com/purdue/fall2014/stat350findsen/home>)

We will be using Piazza (a free online discussion board) for questions and online discussions. The discussion board will be carefully and frequently monitored. Most questions will be answered within 24 business hours. Please use piazza Q&A for all homework, lab, and general questions and as a forum to create groups for your project. It is not appropriate to post answers to homework on this forum. If you are concerned if a post is appropriate, you may post the question privately and someone will respond to you only. Only e-mail me with private questions. As this is the first semester in which I have used WebAssign for the course, please e-mail me privately if there are any problems with the WebAssign questions themselves or you believe an answer is marked incorrect in which you think it is correct. The most helpful student(s) on the discussion forum will receive up to 3% extra credit. We will be looking at the quantity of relevant posts and the usefulness of the posts themselves to determine who will receive the extra credit.

**Blackboard:** (<https://mycourses.purdue.edu/>)

This semester, all online submissions will be on Blackboard. This includes the lab reports and project reports. You will receive bonus points if you also submit your written homework on this site. In addition, there might be other resources that are posted in the content area depending on what is accessible via WebAssign and the book website. If more materials are posted, these will be mentioned in the announcements on both Blackboard and the course website.

Your grades will also be posted online in this location. It is your responsibility to make sure the grades recorded on Blackboard are correct. There will be two columns for homework assignments, one from the word graded by the TA and one from Blackboard. No grades on Blackboard (other than the final exam) will be changed after the final exam. If there is a mistake on a grade from material which is turned in via a hard copy, you must show that paper to the instructor in a timely fashion. For all other mistakes, you must inform your instructor electronically in a timely manner.

**Grading Policy:**

Final course grades are determined by the following weights:

Category	Traditional
Participation	3%
Course Evaluation	2%
Homework	15%
Labs	10%
Group Project	5%
MIDTERM Exams	20% x 2
Final Exam	25%
<b>TOTAL</b>	100%

The letter-grade cutoffs for this course are approximately:

>= 90	A-/A/A+	80 – 90-	B-/B/B+
70 – 80-	C-/C/C+	60 – 70-	D-/D/D+
<60	F		

*I reserve the right to change the grading scheme should unusual circumstances demand it.*

**Lectures:**

- I strongly recommend that all students attend the lectures. Besides covering material that is not in the book; I also make comments and provide advice. If you do miss class, it is **YOUR** responsibility to obtain the material that you missed. If for some reason, you cannot make your scheduled lecture, contact me and I will let you know if you can attend another one of my sections (see above for times/locations).
- To ensure all students have positive learning experiences, disruptive behavior in class will not be tolerated. Students who are disruptive will receive punitive points up to 10% of the course grade and will be referred to the Office of Dean of Students.

**Class Participation:**

- Since class attendance is not required, there are a number of ways of obtaining a good participation grade without attending class; however, attending/paying attention in class is the best way to get a good score. The participation grade is subjective and each of the following items do not have equal weight. The participation grade is determined by a combination of the following:
  1. Spot check of attendance in class and in the lab.
  2. The submission of your questionnaire by the due date.
  3. Performing the introductory WebAssign assignment the first week of class.
  4. Appropriate activity on piazza.com.
  5. Going to office hours either in my office, the STAT help room or the Wednesday night help session. Details of how to get credit will be available shortly.

**Course Evaluation:**

- During the last two weeks of the semester, you will be provided an opportunity to evaluate this course, your instructor and TAs using an online evaluation.
- Your participation in this evaluation is an integral part of this course. Your feedback is vital to improving education at Purdue University. I will give you details on how to show that you did the evaluation later in the semester. Furthermore it is part of your class participation grade (2%).

**Labs:**

- Labs will be held on most Wednesdays; please see the schedule and Lab web page for details. Lab attendance is recommended but not required as long as the labs are turned in on time.
- All students have a choice of using Minitab, SAS, or R for their lab assignments. Students using R or SAS will receive 20% extra credit for their lab grades. It is strongly recommended that statistics and actuarial students use SAS and computer science students use R.
- The lab report is to be turned in electronically on Blackboard in ONE file using PDF format. **No late work will be accepted.** Computer difficulties are not a valid excuse. Please see the Lab Syllabus for more details.
- No lab score will be dropped at the end of the semester.
- If you need additional help on the labs, you may attend additional lab sections. Please inform the instructor if you are planning to do that because there is limited extra seating especially in SC 231. We will know more about the availability of this later in the semester.
- Besides office hours, please see the lab web page for additional ways for getting help on the software packages.

**Projects:**

- There will be one or two group projects. Each group should consist of 2 - 4 students. Please form your group early in the semester. Group members may be in any of my sections. If you do not know anyone in class, please use piazza to find the group mates. The groups will need to be finalized early in the semester because we will be using these groups as a class exercise. For days in which the project is done in lab, **PLEASE** let me know in advance if you are going to switch sections to be with your group member to be sure that there is enough room in the labs.
- Further details will be forthcoming about the projects.

**Homework:**

- Homework assignments are posted on **WebAssign**. I will indicate on the homework web page when they are available.
- Even though we are using online homework, a hard copy of the following information is required for all assignments. 1) For numeric problems, the work required to perform the calculations. 2) If the problem itself states that something needs to be written down. Because of this, some WebAssign problems might be worth 0 points; that means that all of the points will be graded from your paper. In WebAssign, even if the problem is worth 0 points, you can still see whether the answer is correct or not. Not all problems will require anything on the hard copy, but all assignments will require something to be turned in. If no work is required, it is not required to put that problem on the hard copy. All work must be submitted either using a hard copy in class on the Wednesday following the WebAssign due date or by submitting it online via Blackboard at the same time as the WebAssign due date. If you submit the work online, you will receive a 5% bonus on the part of the assignment submitted on Blackboard.
- No homework/score will be dropped at the end of the semester.
- **No late work will be accepted.** Computer difficulties are not a valid excuse for having late homework.

**Exams (two midterm exams and one final exam):**

- The exams will be closed book exams.
- The exams are night exams on the following dates:
  - Exam 1: Wednesday Oct. 8 6:30 pm – 7:30 pm LILY 1105
  - Exam 2: Wednesday, Nov. 19 8:00 pm – 9:00 pm LILY 1105
- Statistical Tables are provided. No formulas will be provided.
- You are permitted to bring **one** double-sided 8 1/2" x 11" cheat sheet to the two midterm exams and **two** double-sided 8 1/2" x 11" cheat sheets to the Final Exam. The cheat sheet can be typed or written.
- You need to bring pens, pencils, and calculators. Graphing calculators (e.g. TI-83) are permitted, but not required. A scientific calculator is necessary.
- Final exam is comprehensive.

**Regrade Request**

- To request a regrade for exams, you must submit a regrade form (class web site, miscellaneous page) with your exam within **two weeks** from when the exam is returned.
- To request a regrade for homework assignments and labs etc., submit a regrade form within **one-week** from when the work is returned. If you submitted a hard copy of the homework assignment, this needs to be included with the request.
- Regrade requests outside the regrade window will be denied.

**Policy for Make-up Exams:**

- The format of the makeup exam may differ from the regular exam. It may include questions requiring the use of statistical software or oral examination.
- You must have a valid reason to request a makeup exam. Valid reasons include absence due to activities required by Purdue University, direct conflict in exams, and /or a death in your family.
- If you must miss an exam for non-emergency reasons, please submit a completed *Make-up Exam Form* (class web site, miscellaneous page) with appropriate documentation to your instructor at least **one week** in advance of the exam.
- If you are missing the exam due to an **emergency**, you must **e-mail your instructor** with details of your situation and the information requested on the Make-up Exam Form **no later than 9 am the day after the scheduled exam**.
- **Failure to meet these deadlines may result in a score of 0 points for the exam.**
- Your lecturer will need to approve your documentation (university or doctor's note, obituary, etc.) before your exam grade will be recorded.
- We make every effort to accommodate student schedules while also protecting the integrity and security of the exam. Usually only one make-up exam time will be scheduled following each regular exam. The make-up exam time will be chosen based on students' schedules, room and proctor availabilities.

**Section Change:**

- If there is room in the classroom and lab of another of MY sections, there is no need to officially change sections unless necessary for other reasons. To change sections, you need to drop the first section and hope that there is room in the other section for you to add. Remember that the sections fill up quickly.
- If you change sections, it is YOUR responsibility to print off your grades from your old Blackboard site and give them to your new instructor within two weeks of the section change.
- Please observe the deadline for cancelling a course assignment without it appearing on record. ***I reserve the right to NOT sign a student out of the course.***

**Academic Honesty:**

- You are expected to uphold The Honor Code of Purdue University.
- All cheating in the course will be referred to the Office of the Dean of Students.
- Any cheating on exams will result in an "F" in the course.
- Cheatings on labs, homework, projects, etc. will result in zero for that assignment, then a letter grade reduction.

In STAT 350, we encourage students to work together. However, there is a difference between good collaboration and academic misconduct. We expect you to read over this list, and you will be held responsible for violating these rules. We are serious about protecting the hard-working students in this course. We want a grade for STAT 350 to have value for everyone. We punish both the student who cheats and the student who allows or enables another student to cheat (even by not keeping an exam covered). Make sure that you are doing everything you can to protect the value of your work on exams, homework, discussion posts, and even class participation and studying.

**Good Collaboration:**

- Try all of the homework problems yourself, on your own.
- **After** working on every problem yourself, then get together with a small group of other students who have also worked on every problem themselves.
- Discuss ideas for how to do the more difficult problems.
- Finish the homework problems on your own so that what you turn in truly represents your own understanding of the material.
- Work the review problems individually, and then use the group for discussion.
- Discuss concepts or practice problems in the group.
- Explain concepts or practice problems to each other.
- If the assignment involves writing a long, worded explanation (like an essay question), you may proofread somebody's completed written work and allow them to proofread your work. Do this only after you have both completed your own assignments, though.
- Ask a tutor or TA for help on a problem **related** to a homework problem, but do the actual homework problem yourself. The odd-numbered problems in the book have answers in the back, so they're great for examples.

**Academic Misconduct:**

- Divide up the problems among a group. (You do #1, I'll do #2, and he'll do #3: then we'll share our work to get the assignment done more quickly.)
- Post answers to a homework question publically on piazza.
- Attend a group work session without having first worked all of the problems yourself.
- Participate in group work without being prepared, allowing your partners to do all of the work while you copy answers down, or allowing an unprepared partner to copy your answers.
- Start the problem yourself but then copy somebody else's solution for the rest of the problem after you got stuck.
- Read someone else's answers before you have completed your work.
- Have a tutor or TA work though all (or some) of your HW problems for you.
- Share lab work, print off two copies of the output, or two people use the same computer to do lab.
- Not keeping your exam covered.

**Additional Policy statements:**

- **Grief Absence Policy for Students:** Purdue University recognizes that a time of bereavement is very difficult for a student. The University therefore provides the following rights to students facing the loss of a family member through the Grief Absence Policy for Students (GAPS). GAPS Policy: Students will be excused for funeral leave and given the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments in the event of the death of a member of the student's family.

- **Students with Disabilities:** Purdue University is required to respond to the needs of the students with disabilities as outlined in both the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 through the provision of auxiliary aids and services that allow a student with a disability to fully access and participate in the programs, services, and activities at Purdue University.

It is the student's responsibility to notify the Disability Resource Center (<http://www.purdue.edu/drc>) of an impairment/condition that may require accommodations and/or classroom modifications. The student may use the back of the questionnaire to inform the instructor at the beginning of the semester of any accommodations that are required; however, official paperwork is required at least two weeks in advance of any exams or assignments that require accommodations (except for the first homework assignment). Please make an appointment to speak with me within the first three (3) weeks of the semester in order to discuss any adjustments that you require.

- **Violent Behavior Policy:** Purdue University is committed to providing a safe and secure campus environment for members of the university community. Purdue strives to create an educational environment for students and a work environment for employees that promote educational and career goals. Violent Behavior impedes such goals. Therefore, Violent Behavior is prohibited in or on any University Facility or while participating in any university activity.
- **Health Emergencies:** If a student has a serious medical issue, the instructor needs to be contacted via e-mail as soon as possible so accommodations can be made. The student will also need to provide documentation of the issue. Only limited accommodations can be made if the instructor is first contacted AFTER the student turns in the assignment or takes the exam.
- **Emergency Preparedness:** On the web site, there is an “[Emergency Preparedness for Classrooms](#)” link that provides additional preparedness information. This includes a copy of the slide that is presented in class. Please review the sheet and the Emergency Preparedness website for additional emergency preparedness information. In the event of a major campus emergency or other circumstances beyond the instructor’s control, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar. Relevant changes to this course will be posted onto the course website, [http://www.stat.purdue.edu/~lfindsen/stat350/stat350\\_f14.html](http://www.stat.purdue.edu/~lfindsen/stat350/stat350_f14.html), or can be obtained by emailing the instructor at [LFindsen@purdue.edu](mailto:LFindsen@purdue.edu). You are expected to read your @purdue.edu email on a frequent basis.
- **Nondiscrimination:** Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.



Purdue University prohibits discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability, or status as a veteran. The University will conduct its programs, services and activities consistent with applicable federal, state and local laws, regulations and orders and in conformance with the procedures and limitations as set forth in Executive Memorandum No. D-1, which provides specific contractual rights and remedies. Any student who believes they have been discriminated against may visit [www.purdue.edu/report-hate](http://www.purdue.edu/report-hate) to submit a complaint to the Office of Institutional Equity. Information may be reported anonymously.

### Approximate Outline

- We will be skipping sections in the chapters. These will be mentioned in class.

Topic	Reading (Chapter #)
Examining Distributions	1
Examining Relationships	2
Producing Data	3
Probability	4
Sampling Distributions and specific Sampling Distributions	5 + Extra Readings
Confidence Intervals and Hypothesis Tests, I	6
Confidence Intervals and Hypothesis Tests, II	7
ANOVA	12
Regression	10
Proportions	8