

# **E370 Statistical Analysis for Business and Economics**

## **Information and Policies Manual**

**Spring Semester, 2011-12**

**Sections 15954 & 15967**

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## Course Description

**E370** is the first course in statistics for Business and Economics majors. Statistics plays a vital role in many aspects of science, the economy, governance, and even entertainment. The course is intended to enable you to develop a set of statistical tools which you will be able to apply ethically and responsibly to data encountered in your future classes or on the job.

## Prerequisite Knowledge

**M118** is a prerequisite for this course. You are expected to know probability concepts including simple or marginal probability, joint probability, conditional probability, and sums and products of probabilities. You are also expected to understand combinations and permutations, and random variable concepts including PDF'S, expected values, standard deviations, the Bernoulli, and the Binomial. It is a good idea to get out your M118 text and review. **If you have managed to register for this course AND M118 or its equivalent, you will be summarily dropped from the class roster.**

**E201** is also a prerequisite for this course. You are expected to have learned basic language and concepts in E201 including but not limited to: surplus, shortage, complement, substitute, cost, production, average, marginal, ceteris paribus, Demand, Supply, exogenous and endogenous.

**E202 and M119** are recommended in addition to the pre-requisites. E202 considers topics on which statistical analysis is frequently used and would provide a broader background for appreciating applications. Calculus is not used in E370 but M119 provides an introduction to the mathematics of continuity and infinity and how they differ from the mathematics of the finite and discrete.

**Microsoft Excel** is the computer package used for **all calculations** in this course. While you are not expected to know the statistical techniques, you are expected to know basic Excel operations and how to navigate a spreadsheet. Ask your lab coach for a starter workbook if you are unsure of your Excel abilities.

## Course Goals

**My Goal** is for you to be successful learning statistics. To that end, this manual contains information on such topics as how to study, how to prepare for class, suggestions from former students, and suggested supplemental textbooks.

**Your Goals** are specifically to:

1. enhance your knowledge of quantitative concepts and skills, and the basic probability and statistics learned in M118.
2. develop an understanding of key statistical concepts used in economics and business.
3. learn basic methods of sampling and data collection.
4. learn the ethics of sampling, data collection, analysis and reporting.
5. learn basic statistical methods of data analysis, founded in probability theory.
6. apply basic statistical methods to data with the help of the statistical applications found in *Microsoft Excel*.
7. draw statistical inferences using the results obtained by the application of basic statistical methods.
8. learn to make predictions using basic linear methods.
9. learn to evaluate statistical techniques reported in the popular press.
10. develop the ability to think rationally which enables analysis, assessment, differentiation, and independent construction of opinions, ideas, and arguments.

## Important Semester Dates:

- Last date on which Wait Lists are processed is **Saturday, January 14, 2012.**
- Martin Luther King Day is **Monday, January 16, 2012 NO CLASSES meet on this date.**
- Collaborative Learning Option Forms Due by **5:00 PM Wednesday, January 18, 2012.**
- Last date to submit requests for accommodation for **ALL** religious holiday and sports participation conflicts with class, and DSS accommodation is **5:00 PM, Friday, January 27, 2012.**
- Last day to submit Extended-X request forms to the office of your school or division dean is **Monday, February 6, 2012.**
- A draft of the team project proposal is due in your lab **Thursday, February 9 or Friday, February 10, 2012.**
- Exam One (Practical) is scheduled in *your* lab at *your* regular lab time on either **Thursday, February 16 or Friday, February 17, 2012.**
- Exam Two (Evening) is **from 8:00 to 9:30 PM, Monday, February 27, 2012.**
- Final Draft of the team project proposal is due in your lab **Thursday, February 23 or Friday, February 24 2012.**
- The first grade freeze occurs at 12:00 noon **Saturday, March 3, 2012.**
- Last day for Late Drop and Add using eDrop/eAdd or to withdraw from all classes with an automatic grade of W is **Wednesday, March 7, 2012.**
- Spring recess begins after the last class on **Saturday, March 10, 2012** and ends at the beginning of the first class on **Monday, March 18, 2012.**
- Part Two, Variable Descriptions and Relationships, of your team project is due in your lab **Thursday, March 22 or Friday, March 23, 2012.**
- Exam Three (Practical) is in your regular lab at your regular lab time **Thursday, March 29 or Friday, March 30, 2012.**
- Exam Four (Evening) is **from 8:00 to 9:30 PM, Monday, April 9, 2012.**
- The second grade freeze occurs at 12:00 noon **Saturday, April 14, 2012.**
- Team project presentations occur in your lab **Thursday, April 26 or Friday, April 27, 2012.**
- The Final Exam for this course is **from 2:45 to 4:45 PM, Monday April 30, 2012.**

## Required Resources:

*Statistical Analysis for Business and Economics*, Camp, Mary Elizabeth, Great River Technologies, 2011. This text includes the course Lab Manual, tool cards and a one-time on-line access code for the electronic course workbook

*Applied Statistics in Business and Economics*, 3d edition, Doane and Seward, McGraw-Hill, 2010. You will have received an electronic copy of this text at the time of your registration. This is the “auxiliary text” mentioned on the following pages, in the Online Course and the Course Calendar.

**Note: Free eText training session Thursday, January 12, 2012, at 1:30. Register at <http://ittraining.iu.edu/training/browse.aspx?workshop=ETXBS>**

*Microsoft Excel 2010*. This program is available through the Windows menu in any of the UITS clusters. Statistical applications of EXCEL will be used in this class. Knowledge of these EXCEL applications will be required for exams, lab tests and home work assignments. **Note that Office 2010 is available for free via IUWare. Go to the IUB web site and click on computers and go from there.**

**Recommended Textbook:** *The Cartoon Guide to Statistics*, Larry Gonick & Wolcott Smith, HarperCollins, 1993. A “serious” statistics text which focuses on intuition and meaning of concepts.

## Emergency Preparedness Plans:

Any alarms, drills or violent weather warnings take precedence over any planned class activity. In the event of a fire drill, alarm or other act of God occurring during a class session, stop work immediately and collect your personal items only.

- **In case of a fire drill or alarm**, vacate the room and building by the nearest exit and look for your lab coach who will be in the authorized safe area. Your coach will tell you if the class will re-group and you should linger, or if you are free to proceed to your next appointment. An announcement will be posted on the course web site and Oncourse detailing how access to any lost time and information will be made up.
- **In case of a severe weather warning or earthquake**, follow your coach to the designated shelter area. Follow instructions given by authorized personnel. When the danger has passed, your coach will tell you if the class will re-group, or if you are free to proceed to your next appointment. An announcement will be posted on the course web site and Oncourse detailing how access to any lost time and information will be made up.
- In case of **an interruption of an exam**, **leave all exam materials on your desk**, and follow the appropriate directions above. The exam will be rescheduled for some time in the following seven days, at which time a different exam will be given.

**University Closing:** In addition to these relatively rare occurrences, it is important to know plans for how class work will continue despite student absence, instructor absence or the closing of the university due to weather or pandemic disease.

- **How do you prepare?**
  - » Bookmark the IUB Emergency Preparedness website: <http://www.iub.edu/~prepare> so that you will be able to access information in the event of any emergency closing.
  - » Sign up for emergency notifications through IU Notify. You may sign up or review your IU Notify contact information for accuracy by logging into OneStart (<http://onestart.iu.edu>). There are numerous methods for immediate notification of emergencies.
- **In the case of flu:**
  - » If you suspect you have the flu or have flu-like symptoms, **email me and your lab coach**, then stay out of the public way, stay at home and miss class until you have recovered. Public and university health officials will be urging people with flu-like symptoms to stay away from school and work until they have been completely asymptomatic (without symptoms) for a full day. For severe symptoms, seek the advice of your physician.
- **What preparations have been made for class?**
  - » **Should the university close or I be ill and cancel class**, check your email, check Class Announcements on the course web site or look for an announcement on Oncourse with instructions about how we will continue to work through the syllabus as planned.
  - » In the event of **any cancelled classes**, all students will receive one Quiz Bowl point for every E370 class day when the university is closed or class is cancelled.
  - » Should the **university be closed at the time of a scheduled exam**, an alternate evaluative technique will be used, (most likely using the Original Test and Survey tool on Oncourse) for which directions will be sent via email and posted on the course web site and Oncourse.
  - » Should an **emergency closure occur at the time of a team project due date**, you will be notified about procedures for submitting the work electronically. Should emergency conditions occur immediately before a project due date, students should immediately contact their team members and make plans to meet electronically to prepare the assigned documents in a timely fashion.
  - » We will have a final exam. Its form will be determined based on the state of the university at that time.

## Requests for Accommodation

**Disability:** If you desire classroom or testing accommodations for a disability, contact both Professor Camp **and** your Lab Coach outside of class to present the written supporting memorandum of accommodation from the Office of Disability Services for Students ([www.indiana.edu/~iubdss](http://www.indiana.edu/~iubdss)). Please also submit a **Request for Accommodation form** which can be found on the online course under “Course Information.” Requests for accommodations for disability must be received and authorized by Professor Camp **and** your coach in written form **no less than two weeks in advance of need**, in order to allow adequate time to review and make appropriate arrangements. No accommodation should be assumed until authorized by Professor Camp. **This means that accommodation requests must be submitted by 5:00 PM, Friday, January 27, 2012, which is two weeks in advance of the first exam.**

**Religious Observances:** The University sanctioned form for use by students requesting accommodation for religious observances can be accessed from the online course under “Course Information.” **A separate form must be completed for EVERY request throughout the semester.** Exams and labs are point bearing, so be sure to request accommodation for **ALL possible missed labs and exams.** ALL forms for the entire semester must be submitted to Professor Camp by **5:00 PM, Friday, January 27, 2012.**

**Sports Participation:** Any student who is a member of a sports team must file a form asking for accommodation for any class activities that will be missed as the result of a game or travel associated with a game. The “Sports Absence Form” is found on the online course under “Course Information.” This form must be submitted to Professor Camp by **5:00 PM, Friday, January 27, 2012.** All anticipated absences for the entire semester must be included on the form.

**University Sanctioned Activities:** The University has requested that faculty make reasonable accommodation for participation in University sanctioned activities. Any student who participates in such activities must file a form asking for accommodation for any class activities that will be missed as the result of a specific activity or travel associated with the activity. The “University Sanctioned Activities Absence Form” is found on the online course under “Course Information.” This form must be submitted to Professor Camp by **5:00 PM, Friday, January 27, 2012.** All anticipated absences for the entire semester must be included on the form. For those events of which the student is unaware prior to **January 27**, the student must file the accommodation request form with all due haste, **but not less than 2 weeks** prior to the activity.

## How will this class work?

**Course Organization:** You will meet twice a week for 50 minutes each in BH013 for clarifying lecture, discussion and activities designed to help you grapple with the course concepts and to prepare you for home work and exams. Once a week you will meet in a computer lab for 50 minutes where you will practice using Excel to perform the techniques discussed in class and relating the concepts to the technicalities of the course.

**Teams:** You will be assigned to a team in your first lab meeting. You must sit with your team in lectures and in lab. Team members are also an excellent resource for assistance with home work. Specifically teams will:

1. be assigned a seating area in lecture and will sit together in that area. During class teams will work together on in-class activities and collaborate on problems.
2. sit in team “computer clusters” (each team member sits at a computer at one corner of a box; the aisle bisects the box) in lab and help one another with the assigned activities.
3. produce all stages of the Team Project.
4. **Collaborative Learning is another activity defined by team work, but the teams are informal and are populated by those students who select a particular Collaborative Learning session.**

**Why You Will Work in Teams:**

1. The “synergy” produced by the interaction of team members all actively working on the same problem has been shown to enhance and deepen learning.
2. Research demonstrates discomfort with math-like subjects is reduced by the social interaction of group work.
3. Groups are safe places to practice solving problems before you try them on your own and to practice the language of statistics we will be learning.
4. Learning to work in small groups has become an essential real-world survival skill.
5. Explaining materials to others is the best way to come to understand it yourself.
6. Team work produces redundancy (that is, repeats) in presentation of course material and the more often material is heard, the more learning occurs.
7. Different learning styles require a variety of approaches to the material.
8. Collectively your team may produce ways of explaining the material to each other that are clearer to you than the resources provided.
9. It is easier for us to provide more feedback to teams.

**Laptop Computers and the Lecture Hall**

Official E370 policy prohibits the use of laptop computers in the classroom. Even when laptops are used appropriately, such as the taking of notes, their lighted screens and other visual stimuli serve as an almost irresistible distraction to those who are seated around the user. Please allow your fellow students to concentrate fully on the course.

| <b>A Typical Week in the Life of an E370 Student</b><br>(Written for a Friday Lab Student) |  |
|--|--|
| <b>Sunday:</b>   | Prepare for tomorrow’s class by reading the supplemental notes online and the assigned pages in the auxiliary text. Respond to Reading Questions in the online supplemental notes and review the symbols and vocabulary terms in flash cards.    |
| <b>Monday:</b>   | Attend class and earn Quiz Bowl Points. As soon as possible, review class activities and notes and develop any questions you may have. Work on the practice problems and Cool Downs online. Fill out the Tool Cards associated with that lesson. |
| <b>Tuesday:</b>  | Prepare for tomorrow’s class by reading the supplemental notes online and the assigned pages in the auxiliary text. Respond to Reading Questions in the online supplemental notes and review the symbols and vocabulary terms in flash cards.    |
| <b>Wednesday:</b>  | Attend class and earn Quiz Bowl Points. As soon as possible, review class activities and notes and develop any questions you may have. Work on the practice problems and Cool Downs online. Fill out the Tool Cards associated with that lesson. |
| <b>Thursday:</b>   | Work through the assigned chapter in the lab manual and complete the pre-lab quiz.   |
| <b>Friday:</b>   | Attend lab, turn in pre-lab quiz and take the end-of-lab quiz, work with your team and earn Quiz Bowl points.  |
| <b>Saturday:</b>   | Using your Tool Cards organize the week’s information and put it in the concept map you have been keeping all semester. Glance through the Reading Questions for the next lesson to help direct your reading.                                    |

## Preparing for Class

1. **Check the course calendar for the current assignment and select that Lesson from the menu on-line.** One lesson is assigned for each class and begins with a list of specific goals for that lesson.
2. **Read the supplemental notes, submitting your answers to the embedded Reading Questions, and review the assigned pages from the auxiliary text.** The goals page contains the link to the Supplemental Notes, the primary source for course content information. Related pages in the auxiliary text are also found here. There are Reading Questions embedded in the supplemental notes online to help you focus and get ready for class. As you work through the reading, answer the questions and submit your responses. (See page 7 for more details about these activities.) You should also write down any questions that come to mind as you are reading that you would like to have answered in class.
3. **Review the flash cards of vocabulary and symbols.** The links for flash cards of new statistical vocabulary and symbols are found on the menu for each lesson. Take the time before class to review vocabulary and symbols. Definitions are all included.
4. **Attend and participate in class.** It is critical to be prepared for class, and if you have accomplished the previous steps, you should be ready. Class will consist of brief snippets of lecture intended to clarify what students found unclear, followed by activities and practice questions. The activities and questions are designed to provide a deeper understanding of and to give you practice using the concepts and ideas you have studied before class.

## Preparing for Lab

1. **Turn to the appropriate chapter in the lab manual.** The lab manual is designed to prepare you for lab. One chapter corresponds to a lab meeting, with three lab meetings reserved for exams and project presentations. Each chapter is set up the same way, beginning with a list of objectives and the specific workbook lessons that are related.
2. **Read the brief review of background theory and summary of important formulas.** Work your way through the examples, *using Excel as you do so*, to be sure you get the same answers. It is critically important that you work through the chapter **BEFORE** lab. Your lab coach will perform a very brief review at the beginning of the session, but you will be expected to be familiar with the chapter content.
3. **Do the pre-lab quiz assigned for the week.** The pre-lab quiz has been designed to allow you to gauge your readiness for lab. The questions are the clearest statement of exactly what you are expected to come to class able to do.
4. **Attend and participate in lab.** Turn in your pre-lab quiz at the beginning of the lab session. Lab will consist of a brief review of workbook and lecture material followed by problem sets that you will work with at the same time as the other members of your team. **YOU SHOULD EACH WORK AT YOUR OWN COMPUTER**, consulting and checking with one another as you work. Periodically your lab coach will call the class back together to discuss the results and focus on accurate interpretation.

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**Important Note about Differences Between Supplemental Notes and the Auxiliary Text:** Techniques and rules stated in the Supplemental Notes and the Lab Manual ALWAYS take precedence over techniques and rules stated in the auxiliary text.

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## Activities

| <p><b>Overview of Point Bearing Activities:</b> Grades are calculated as a percentage of 1000 possible points. Points can be earned in the categories listed here. All these activities are point-valued toward the final grade, and, as such, are graded. Guidelines and descriptions of activities are found on the page noted in parentheses after the name of each activity.</p> |  |                       |
|--|--|-----------------------|
| Activity   | Number of assignments and value  | Total Points Possible |
| Reading Questions (7)  | 28 lessons offered @ 4 points to a maximum of 100  | ==> 100               |
| Collaborative Learning Option (8)  | Participation consistently over the semester in this option will earn students 70 points toward the final exam.  |                       |
| End-of-Lab Quizzes (10)  | 11 end-of-lab quizzes offered @ 4 points   | ==> 40                |
| Team Project (10)  | 3 parts totaling 190 possible points.  | ==>190                |
| Evening Exams (11)   | 2 @ 100 points   | ==>200                |
| Lab Exams (11)   | 2 @ 100 points   | ==>200                |
| Comprehensive Final (11)   | 1 @ 240 points   | ==>240                |
| Class Participation (13)   | A maximum of 30 points awarded by lab coaches based on observations of student behavior and participation in <u>class and lab</u> over the semester.   | ==> 30                |
| <b>Total Points Possible</b>   |  | <b>==&gt;1000</b>     |
| <b>Extra Credit Opportunities:</b>   |  |                       |
| Pre-Lab Quizzes (13)   | 12 @ 2 points each to a maximum of 20 points.  |                       |
| Quiz Bowl Points (13)  | Extra credit participation certificates, worth 1 point each, to a maximum of 40 points.  |                       |
| <b>Additional Activities</b>   |  |                       |
| Assigned Problems  | These problems are found under Practice Problems in the online course. Each lesson has at least one problem assigned. Many come from the Doane text. These problems are <b>strongly recommended</b> for all students and are part of the required work for Collaborative Learning. |                       |
| Learning Objects   | Learning Objects are activities found in the online course and are designed to review material, enable you to summarize material, and help you see the concepts in action. These objects are <b>strongly recommended</b> .   |                       |

**Reading Questions: Ten percent** of course points will be awarded for submitting answers to Reading Questions, embedded in the online text. These questions are the *only homework REQUIRED for the course* and are scheduled to help you to stay current with the material in the course. **There are lots of advantages to staying current with course assignments.** Some of them are:

- Your study sessions will be shorter.
- You will not have to cram for exams.

- You will find it easier to prepare for exams because you will be reviewing material rather than seeing it for the first time.
- You will find class more understandable and will get more out of it when you are up to date with assignments.

**Reading Questions will be your only *REQUIRED* homework.** Reading Questions appear at intervals in all lessons in the online text (except the first), and are intended to help you review and articulate what you just read.

**Reading Questions will be scored.** Each Reading Question activity is worth 4 points to a maximum of 100 points. There is an average of 9.9 Reading Questions per lesson. Three questions will be selected at random for grading in each activity. The four points will be allocated among the three questions on an *ad hoc* basis. The answers on the questions must be acceptable. This does not necessarily mean completely correct, but a higher standard of accuracy than "a good-faith effort" is required. In addition to **accuracy**, graders will be looking for **original** (no copying text or friends), **thoughtful** (you actually tried to answer the question that was asked) and **sincere** (your response was not gibberish or in any other way not in good faith) responses to all questions.

*NOTE: The technology underpinning the Reading Question system makes checking for identical responses and for copied text very easy and such checking is standard practice. You are always encouraged to work with classmates on all parts of this course. However, you are expected to submit your responses in your own words. There is NEVER ANY CIRCUMSTANCE under which two students' answers should be identical.*

**This course**, by virtue of the nature of the subject, **is cumulative**; think of it as a marathon. Reading Questions are your regular training sessions that will help you finish the marathon at the front of the pack. They will improve your long-term performance in the course and your score on the final exam. **THEY CAN ONLY HELP YOU IF YOU DO THEM THOUGHTFULLY AND REGULARLY.** Don't reduce your chance to excel in this course by blowing off Reading Questions.

### **Reading Question Details:**

- Lesson Two contains the first Reading Questions, and there are questions in all subsequent lessons.
- Reading Questions are always available because they are embedded in the text, so you may work ahead as you wish.
- To earn points, you must submit responses to these questions by 1:25 PM (Section 15954) or 2:30 PM (Section 15967) the day that lesson is assigned. Responses will be downloaded for scoring at this time and any later submissions will not be scored.
- Students may submit responses to any Reading Question as many times as desired. Each question is submitted separately.
- The responses to the first set of Reading Questions in Lesson Two will be due at 1:25/2:30 PM, Wednesday, January 11, 2012 if you wish to get credit for them
- Twenty-eight sets of Reading Questions are available, valued at a maximum of 4 points each.
- A maximum of 100 points can be earned from Reading Questions.

### **Collaborative Learning Option:**

**What is Collaborative Learning?** Collaborative learning is the process of learning concepts and principles as a result of working with a group of individuals to solve common problems or complete a common task. In E370 Collaborative Learning involves two things: 1) turning in your work on a set of problems assigned the previous week and 2) groups of students meeting weekly with an Undergraduate Intern (UGI). At these meetings, the UGI divides the attendees into small groups and presents a set of problems. The UGI assists groups as they solve problems, answers questions when they arise, demonstrates solutions as necessary and administers a brief assessment at the end of the session.

**What does ‘Collaborative Learning Option’ mean?** “Option” means your active participation in these activities is your choice. You may choose to actively participate in weekly collaborative learning or not; it is up to you. You must, however, commit to participating in this option by **January 18, 2012**, the middle of the second week of class.

**What is the value of Collaborative Learning?** The advantages of collaborative learning are innumerable. Here are just a few. Collaborative learning: 1) enables the development of higher level thinking skills, 2) increases retention of content, 3) develops statistical communication skills, 4) enables students to explore alternate problem solutions in a safe environment, 5) stimulates critical thinking and helps students clarify ideas through discussion and debate, and 6) allows peers to model problem solving techniques which powerfully improves understanding and content retention for all parties.

**In addition to** the intangible benefits mentioned, active participation over the entire semester will earn you **7% of possible semester points in the form of 70 points on the Final Exam.** (Each of 40 final exam questions will be worth 4.25 points, rather than 6 points.) If you choose not to participate in Collaborative Learning your final exam will be worth 24% of possible semester points (40 questions at 6 points each.)

#### **Collaborative Learning Option Declaration:**

- **Every student must choose to participate or to opt out** of participation by January 18, 2012. The form to use can be found on the web site at [www.iu.edu/~econstat/](http://www.iu.edu/~econstat/) under “Special Forms.” It can be accessed on Oncourse, by locating it under “Resources” and it can be accessed via the online course under Course Information.
- Collaborative Learning Option Declaration forms will be distributed in class the first week of the semester, they will be available on request from lab coaches in labs, and in lecture.
- Forms must be submitted by **5:00 PM, January 18, 2012**, to WY105, your lab coach or Professor Camp.

#### **Collaborative Learning Session Requests:**

- Collaborative Learning Session Requests will be accomplished on Original Test and Survey in Oncourse.
- Collaborative Learning Session Requests must be completed by **5:00 PM, Wednesday, January 18, 2012.**
- You will have **ONE** opportunity to request your preferences.
- Should your preferences change after you have submitted your request, return to Oncourse, select Resources and print a hard copy of the Collaborative Learning Session Preference Change Form posted there. Fill out and present this request form to Professor Camp **as soon as possible.** You will be notified about your session assignment.

#### **Collaborative Learning Policies For Those Who Opt In:** In order to receive the full point value of CL:

- students must attend the specific session for which they register.
- students must arrive on time to the session.
- students must stay until the session is over or it is dismissed.
- students must turn in an “acceptable” set of answers to the Assigned Problems within five minutes of the beginning of the session. (“Acceptable” does not necessarily mean completely correct, but a standard that is more than "a good-faith effort" is required.)
- students must participate in and contribute to the collaborative work going on in their assigned group during each session.
- **Missing CL sessions:**
  - » Students may miss up to two session **with no questions asked** without a reduction in point value.
  - » Students who miss three or four sessions will earn a maximum of 50 points towards the final.
  - » Students who miss five or more sessions will automatically be moved into the No CL option and their final exam will constitute 24% of their final grade.

- **Participation and Behavior Policies**

- » Failure to participate in group work is free riding and all free riders will be marked absent for any session in which they choose to attend but fail to participate.
- » Students who fail to behave appropriately (see pages 14 and 15 of this syllabus) during CL sessions will be asked to leave the session and will automatically be moved into the No CL option and their final exam will constitute 24% of their final grade. Additionally, a report will be filed with Professor Camp, who will decide on an *ad hoc* basis if a charge of personal misconduct is to be placed at the Office of Student Ethics.

**How will the number of points earned from Collaborative Learning be determined?** The amount of credit from CL participation applied to the final exam is a function of three criteria, Assigned Problem completion, Participation, and Assessment Scores. A possible 120 points can be earned over the 12 CL sessions. At the end of the semester, points will be awarded to participants according to the grid on the right. Select a number of sessions attended from the left column and a number of points earned from the second row. The number of points credited toward the final will be found in the cell at the intersection of the selected row and column. For example, if a student attended 11 sessions and earned 91 points out of 120, that student would receive 70 points toward the final exam.

| Collaborative Learning Scoring Grid |                   |         |        |
|-------------------------------------|-------------------|---------|--------|
| # Sessions                          | Points out of 120 |         |        |
|                                     | $\geq 70$         | 50 - 69 | $< 50$ |
| $\geq 10$                           | 70                | 50      | 0      |
| 8 or 9                              | 50                | 0       | 0      |
| $\leq 7$                            | 0                 | 0       | 0      |

**End-of-Lab Quizzes:** Four percent of course points will be awarded for participation in End-of-Lab quizzes. A brief quiz will be given at the end of the period for 10 lab meetings which are not scheduled for lab exams or project presentations. Each quiz is worth a maximum of 4 points for a total possible 40 points.

**Team Project:** Nineteen percent of course points will be earned from a semester-long team project. The project asks you to use all techniques learned in class and, thus, forms a significant part of your final course grade. The project will be submitted in parts at three times over the course of the semester.

- **Part I, Project Proposal, must** be turned in for penalty-free feedback from your coach in your lab either February 9 or 10. Failure to submit a draft of the proposal will result in a penalty of 15 points, which means the maximum number of points possible on the proposal would be 20 points.
- The final version of the project proposal is valued at 35 points and is due in your lab February 23 or 24.
- **Part II, Variable Descriptions and Relationships,** is due in your lab March 22 or 23 and is valued at 55 points.
- **Part III, Inferential Analysis,** worth 80 points, and **Part IV, Oral Presentation** worth 20 points are due in your final lab of the semester, on April 26 or 27, 2012.
- Specific instructions for all parts of the project are found on the online course under “Class Information” and on the Econstat web site under Team Project.
- Each individual’s total points from the team project will be determined by total team points weighted by average team evaluations for each team member. See “Team Evaluations” below.

**Team Evaluations:** Because nineteen percent of your final course grade is derived from your team project, it is important to appropriately assign credit for that which has been produced by the team. At the time the final version of the Team Project is submitted, each team member must submit a team evaluation form in which each team member will be scored on a number of criteria. Team Evaluations are submitted via Oncourse using the Test and Survey Tool. A print version of the Team Evaluation Form can be found on the online course under “Class Information” and on the Econstat web site under Team Project. The specific date evaluations will be available to be submitted online will be announced in lab.

The scores for each student will be collated and a mean score calculated. The total points earned by the team on the Team Project will be individually weighted by the mean score for each team member. **Only then will any points be included in an individual's sum of points in the grade book.** For example, suppose a team earned a total of 140 points out of 190 for the Team Project. A team member had a mean participation score of 85%. That team member would receive 85% of 140 points, or 119 points for the Team Project. **NOTE: any team member who fails to turn in a team evaluation will receive AT MOST 75% of the team points earned.**

**WTS:** The team project parts will be graded based in part on your ability to communicate clearly and effectively. For free help at any phase of the writing process—from brainstorming to polishing the final draft—call Writing Tutorial Services (WTS, pronounced “wits”) at 855-6738 for an appointment. When you visit WTS, you’ll find a tutor who is a sympathetic and helpful reader of your prose. To be assured of an appointment with the tutor who will know most about your class, please call in advance. Appointment information, locations and hours are in the table to the right.

**Exams:** Sixty-four percent of your final grade is earned by taking exams in this course. There will be two exams held on Monday evenings during the semester, two exams held during your lab time during the semester, and a final exam during Finals Week.

**Evening Exams:** When you registered for this course you committed to taking two exams comprising twenty percent of your grade on the following Mondays: **February 27 and April 9, 2012, from 8:00 to 9:30 PM.** These examination times were announced in the *Schedule of Classes*, and it is your responsibility to avoid conflicts at the time of registration.

- Accommodation for religious observations and for IU Sports related conflicts must be requested by the January 27 beginning of the semester deadline described earlier.
- For any other exam conflict, you will have to adjust your schedule to solve the problem or put the weight of the exam onto the final.

**Practical Exams:** Two in-lab written exams will be given over the course of the semester, each worth 100 points for a total of twenty percent of your grade. You will take the exams at your regularly scheduled lab time, in your regularly scheduled lab. The lab exams are scheduled for **February 16 or 17 and March 29 or 30, 2012.**

**Final Exam:** The final exam for this course is scheduled for **2:45-4:45 PM, Monday, April 30, 2012** and is valued at 240 points. When you registered for this course, you committed to taking the final exam at this time. The examination time was announced in the *Schedule of Classes*, and it is your responsibility to avoid final exam conflicts at the time of registration. **If you are registered in Business F 317, Business X 100, Chemistry C 341 AND E370, you have a final exam conflict which must be resolved NOW.** Failure to take the final results in “F” as a final grade. Only in the case of some documented catastrophic occurrence is an “I” awarded on an *ad hoc* basis.

**Unanticipated Interruptions During Exams: Mechanical Failure During a Lab Exam:** In the event that a computer “fails” during a lab exam, the student must bring it to the attention of the exam proctor **IMMEDIATELY.** At that time the proctor, in consultation with the student, will determine how to proceed and how to adjust the

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#### Writing Tutorial Service Schedule of Availability

For more information see

<http://www.indiana.edu/~wts/>

WTS is in the Information Commons on the first floor of the Wells Library

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**For Appointments:** Call 855-6738 for an appointment (limited walk-ins available). Hours for appointments are:

- Monday-Thursday 10:00 a.m. to 8:00 p.m.
  - Friday 10:00 a.m. to 5:00 p.m.
  - Walk-in tutorials available when WTS has an opening, but the appointment book often fills in advance.
- 

**Walk-in Tutorials Only:** WTS can be found in the Briscoe, Forest, and Teter Academic Support Centers

- **Sunday-Thursday 7:00 p.m. to 11:00 p.m.**
-

allotted time so that the student is not unfairly penalized nor unfairly advantaged. The proctor will notify Professor Camp of the situation and agreed solution as soon as possible via email. All agreed upon decisions are final.

**Catastrophic Interruption in Exam:** Interruptions in the exam-taking process have been known to happen. Should such an interruption occur (fire alarm, severe weather alarm, etc.) **immediately stop taking the exam.** Leave all exam materials at your desk or work station. Take only your personal belongings, follow the exam proctor's instructions and exit the building or go to the designated place of safety as quickly as possible. In such an event, the exam will be rescheduled for some time in the following seven days, at which time a different exam will be given.

**Missing an Exam:** If you are unable to take an exam for any reason, you must notify me in writing of the situation and that you will be missing the exam. E-mail is fine for immediate notice. However, as soon as possible after the exam and at most within seven calendar days after the exam, a "Missed Exam Form" must be submitted. This form can be found on the online course under "Class Information" or on this web site under "Special Forms." If a lab exam is involved, notification should go to your lab coach *as well*.

**No makeup exams will be given;** no exams will be given early; no exams will be given late. The point value awarded to you for any missed exam will be determined with the final. You will receive points equal to the percentage of correct answers you gave on your final exam. For example, if you get 30 questions correct out of 40 on the final, or a 75%, you will receive 75 points for each exam you missed over the course of the semester. The number of points is completely determined by the percentage of correct answers on your final exam.

**Missing the Final:** There are no options for missing the Final Exam, with the exception of an Incomplete granted in special circumstances and which is determined on an *ad hoc* basis **prior** to the date of the Final Exam. Once the final has been taken, there is no longer an opportunity for appeal.

**Exam Room Rules:** Adhering to the following guidelines will make the examination process as comfortable as possible for all during all exams.

- The duration of the exam is fixed. The time interval includes taking the exam AND bubbling in your name and your answers, or accessing data files. When the proctor tells you time is up you must IMMEDIATELY stop and turn in your exam.
- You may not enter the exam room until asked to by a member of the teaching team.
- You must have a valid picture ID or you will not be allowed into the exam room.
- If you bring any books, papers, backpacks, etc. into the exam room, you will be asked to deposit them against a designated wall. Please note that students have lost personal property either inadvertently or by stealth from exam rooms.
- The only items allowed within your reach during a Monday exam are calculators, the exam paper, highlighter marker, pencils, erasers, and your Tool Cards.
- **ANY** kind of calculator may be used as long as it is **ONLY** a calculator. No cell phones, iPads or other devices which can communicate with the internet or with others may be used.
- The only items allowed within your reach during a LAB exam are the exam paper, pencils, erasers and your Tool Cards.
- **Only those Tool Card pages which have been divided into the card size will be allowed into the exams.** If a proctor observes tool cards still in page form, the proctor will assist you in dividing the cards into the correct size. Any exam time lost will be forfeited.
- Tool Cards must be free of any printed or photocopied material other than what is already printed in order to be used on exams. Hand written notes are completely acceptable. Tool Cards not meeting this criterion will be confiscated and the student will be unable to use them on the exam.
- ANY talking between students once the exam has begun will be interpreted as cheating and all parties will receive a zero for the exam and fail the course.

- Absolutely NO cell phones, beepers or electronic messaging equipment will be allowed **into the exam room**. Any such equipment found will be interpreted as cheating and the student will receive a zero for the exam and fail the course.
- Once a student has left the exam room that student may not re-enter the exam room. The only exception is for rest room visits, and in such cases only one student may be out of the room at any one time.
- Students must remain seated during lab exams except to turn in their exam. Once the student stands, the exam must be turned in.
- When you have finished an exam, you may leave your seat and turn in your exam **ONLY IF YOU CAN DO SO WITHOUT DISTURBING YOUR CLASSMATES**.

**Class Participation:** A maximum of 30 points will be awarded by lab coaches based on observations of student behavior and participation in class and lab over the semester. At the end of the semester, each lab coach will assign points using a distribution with a maximum of 30, a minimum of 0, centered at 22.

**Extra Credit Points:** Students frequently ask for extra credit work. There is plenty of regular credit work built into the course and no special assignments of any kind will be given to “boost” any particular student’s grade. However, there are two on-going opportunities for extra credit points during class.

**Pre-Lab Quizzes:** A total of twelve pre-lab quizzes are assigned to lab meetings over the course of the semester. All points earned on these quizzes are counted as **extra credit**. It should not be perceived, however, that the quizzes are optional. The quizzes have been carefully written to question specific material you are expected to know **PRIOR** to coming to lab. Your lab coach will assume that you are conversant with the material tested. These quizzes are found in your lab manual at the end of every chapter. They are to be completed **BEFORE** lab begins and will be collected by your coach at the beginning of lab. Each quiz is valued at a maximum of 2 points to a maximum pre-lab quiz total of 20 points. Pre-Lab Quiz due dates are in the table to the right.

| <b>Pre-Lab Quiz Due Dates</b> |                 |
|-------------------------------|-----------------|
| <b>Chapter</b>                | <b>Due Date</b> |
| Ch. 1                         | 1/12-13         |
| Ch. 2                         | 1/19-20         |
| Ch. 3                         | 1/26-27         |
| Ch. 4                         | 2/2-3           |
| Ch. 5                         | 2/9-10          |
| Ch. 6                         | 2/23-24         |
| Ch. 7                         | 3/1-2           |
| Ch. 8                         | 3/8-9           |
| Ch. 9                         | 3/22-23         |
| Ch. 10                        | 4/5-6           |
| Ch. 11                        | 4/12-13         |
| Ch. 12                        | 4/19-20         |

**Quiz Bowl Points:** During class, both lab and lecture, at the whim of the instructor, extra credit points will be distributed to individual students or teams for participation. A certificate will be awarded to the student or team which must be filled out **THAT DAY** and handed back to the student’s Lab Coach by the end of the class. Students can earn a maximum of 40 quiz bowl points.

## **Student Responsibility Centered Learning**

**This is undoubtedly a different format** for class than many of you are accustomed to and it requires you to take a central role in your learning. The ultimate goal of the class is to turn out practicing statisticians, students who are able to function at the synthesis and evaluation levels of Bloom’s Taxonomy.<sup>1</sup> The latest research has confirmed that it is most important to use our valuable class time to do the hard stuff—practice, clarify, think deeply and evaluate. This is only possible if

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<sup>1</sup> I refer you to a brief introduction to the six levels of Blooms which refer to an increasing level of understanding; for example, knowledge (the lowest level) is recalling definitions, whereas evaluation (the highest level) requires selecting the best definition and giving reasons for the choice. This introduction is linked on the online course.

*you* do the relatively low-level stuff—familiarize yourself with information and work to comprehend it—on your own before class.

This format requires you to expend intellectual effort over the course of the entire semester, rather than in short bursts of intense work (that is, cramming for exams.) You will find that preparation for class exams is easier and takes less time than you would anticipate or have experienced in the past. You will also find that you will retain a much larger percentage of the content for a significantly longer time. You will remember enough so that you can practice statistics in your next semester’s class or I-Core.

## Thoughts about Course Difficulty and Studying Techniques

Students tend to find this subject difficult and I have gained some insight about why this is the case. What I have found as the primary problem is that it requires one to use *inductive* reasoning, drawing a general conclusion from specifics. Studies have shown that the vast majority of the population easily reasons *deductively*, applying a general principle to specific information, but a relatively small minority easily reasons inductively. Everyone has the ability to reason inductively but in most people it is like a muscle that hasn’t been exercised much and it tends to resist being stretched.

It is perfectly normal for a student to attempt to approach this subject with the skills that enabled success in previous courses. Unfortunately, most of those skills center around memorization as the primary activity. In the same way that you cannot simply memorize the correct technique for a muscle-building exercise and expect to build muscles, you cannot memorize definitions and formulas and expect to be able to think statistically. This skill must be warmed up, stretched and exercised—with all of the anticipated discomfort—in order for you to be successful at statistics. Perhaps if you think about the activities you are asked to do as muscle-building exercises you will understand why you are asked to do them.

**Learning:** It is your responsibility to do the learning in this class. To that end, you are responsible for:

1. all material presented in lectures, labs and in assigned readings,
2. attending all classes,
3. being on time to all classes,
4. being ready to start class on time,
5. participating in all class activities,
6. staying in class until it is dismissed,
7. staying awake in class,
8. behaving according to stated rules in class,
9. doing assigned problems,
10. turning in assignments on time,
11. picking up assignments after they are graded and checking them,
12. following up a conversation with a teaching team member with an e-mail,
13. preparing for class,
14. preparing for exams,
15. taking exams,
16. staying informed of assignments, meeting locations, and any changes to the syllabus announced during class time.

## Professional Code of Conduct and Student Responsibilities

“[The] Code of Student Rights, Responsibilities, and Conduct is intended to identify the basic rights, responsibilities, and expectations of all students and student groups to serve as a guide for the overall student experience at Indiana University. Every Indiana University student is responsible for reading and understanding this Statement, as well as

other expectations identified by individual schools or organizations relevant to an academic major, professional field, or on-campus residence.

“The purposes of Indiana University include the advancement of knowledge, the pursuit of truth, the development of students, and the promotion of the general well-being of society. As a community, we share a dedication to maintaining an environment that supports trust, respect, honesty, civility, free inquiry, creativity, and an open exchange of ideas. By accepting membership in this community, an individual neither surrenders rights nor escapes fundamental responsibilities as a citizen, but acquires additional rights as well as responsibilities to the entire university community.

“Individual rights are best protected by a collective commitment to mutual respect. A student who accepts admission to Indiana University agrees to:

- be ethical in his or her participation in the academic community,
- take responsibility for what he or she says and does,
- behave in a manner that is respectful of the dignity of others, treating others with civility and understanding,
- use university resources and facilities in appropriate ways consistent with their purpose and in accordance with applicable policies.” *The Code of Student Rights, Responsibilities, and Conduct. Copyright 2005 The Trustees of Indiana University*

**Specific E370 Expectations:** Students are expected to behave in a professional manner while participating in the course. This includes any time when the student is engaged with a member of the E370 teaching team or other current E370 students. Violations of professionalism include, but are not limited to:

- accessing e-mail during lab class
- surfing the web during lab class
- reading the newspaper during class
- sleeping during class
- ignoring requests for quiet and attention
- arriving for class late
- packing up and/or leaving class early
- being absent for more than 25% of the class sessions without providing documentation with a legitimate reason for being absent
- working on material for another course during class
- exhibiting disrespect for the instructor or classmates
- disruptive behavior in class—e.g. carrying on conversations or being excessively noisy
- engaging in any activity that prevents any student from fully participating in class.

**Penalties:** Excessive violations of professionalism will result in a reduction of up to 10% of your total percent for the course, which will lower your letter grade. You will receive two warnings, the second of which will require a face-to-face meeting with me outside of class. The third violation will result in your dismissal from the classroom and a charge of personal misconduct placed at the Office of Student Ethics.

## Academic Integrity

E370 students are expected to uphold the highest standards of Academic Integrity. Specifically, students will refrain from all cheating, lying, a form of cheating and plagiarism. Violations of Academic Integrity are different than violations of professionalism and carry different penalties.

**Cheating:** “Dishonesty of any kind with respect to examinations, course assignments, alteration of records, or illegal possession of examinations shall be considered cheating. Offering the work of someone else as one’s own is plagiarism. **It is the responsibility of the student not only to abstain from cheating but, in addition, to avoid the appearance of cheating and to guard against making it possible for others to cheat.**” (Student Academic Handbook)

**Lying:** Lying to a member of the teaching team about the behavior of another member of the teaching team is dishonest. Lying to a member of the teaching team about another student’s behavior is dishonest. Lying to a member of the teaching team about information purportedly received from another member of the teaching team is dishonest. Lying to a member of the teaching team about your physical or emotional condition and how it affects your class participation is dishonest. Lying to a member of the teaching team about an “act of God” which purportedly affects your class participation is dishonest.

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|---|
| <b>Some Specific Examples of Dishonesty:</b>  |
| <ol style="list-style-type: none"> <li>1. False claim that the course web site was down “all night” and you could not complete a Warm Up.</li> <li>2. False claim that you suffered an unanticipated catastrophic event (surgery, accident or illness requiring hospitalization, family or significant other death) which prevented you from completing an assignment.</li> <li>3. False claim that a member of the teaching team did not give you the allotted time to complete an exam.</li> <li>4. Copying another student’s responses to Review Questions.</li> </ol> |
| <b>All such claims will be investigated.</b>  |



**Penalties:** Any student guilty of cheating, plagiarism or lying about or on any exam, home work or course related activity will receive an F as a **final grade for the course**. Additional penalties may be invoked. Students in this course are asked to take a pledge of academic integrity, in particular to swear that they have not given or received help of any kind on exams, and that they will not discuss exams with anyone until given permission to do so.

### Guidelines for Other Situations

**Between Classes:** Before, during and in-between lecture sections I am focused on the class or trying to get to my next room. Because of this focus, any conversations I might have are almost **immediately forgotten**. While I am happy to answer your content related questions **PLEASE**

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|---|
| <p>1) if you ask me to do something for you at these times., it is your responsibility to email me to remind me of our conversation. No action will be taken without your email. In your email you must summarize the conversation and the agreement. 2) If you give me something to give to someone else at these times, it is your responsibility to email me to remind me. No action will be taken without your email. In your email you must tell me what you gave me and to whom it is to be given. My e-mail address is <a href="mailto:mcamp@indiana.edu">mcamp@indiana.edu</a>.</p> |
|---|

**Office Hours:** A student may seek assistance from any member of the teaching team during his or her stated office hours. Please adhere to the following guidelines when attending office hours with any member of the teaching team. Team office hours can be found at [www.iu.edu/~econstat/](http://www.iu.edu/~econstat/) under Teaching Team Email and Office Hours.

- Introduce yourself every time you go to anyone’s office hours.
- For greater efficiency, bring a copy of any page from the course site about which you have a question.
- Bring a list of questions you would like to have answered.
- Plan to spend a maximum of 15 minutes at any one time in office hours. Other students are usually waiting. The teaching team member may ask you to leave after 15 minutes.
- Do not ask the teaching team member to grade or correct your point valued work before the due date.
- Do not ask the teaching team member for the answers to the point valued work before the due date.

**University E-mail Policy:** Note the official University policy regarding e-mail: “The University reserves the right to send official communications to students by e-mail with the full expectation that students will receive e-mail and read these e-mails in a timely fashion. Official university e-mail accounts are available for all registered students. Official university communications will be sent to students’ official university e-mail addresses. For IU-Bloomington, this is the @indiana.edu address.

- “Students are expected to check their e-mail on a frequent and consistent basis in order to stay current with university related communications. . . .
- “Students who choose to have their e-mail forwarded from their official university e-mail address to another address do so at their own risk. The University is not responsible for any difficulties that may occur in the proper or timely transmission or access to e-mail forwarded to any other address, and any such problems will not absolve students of their responsibility to know and comply with the content of official communications sent to their official IU e-mail addresses. Instructions on setting up or cancelling the forwarding of e-mail may be found by visiting <http://itaccounts.iu.edu>.”

**E370 E-mail Usage:** Please be aware of the limitations of e-mail and adhere to the following guidelines when sending e-mail to any member of the teaching team. Unfortunately, because of past experience, the guidelines now include those e-mail behaviors to which no response will be given.

- **When corresponding with any member of the teaching team you must use your Official University e-mail Address.** All emails are retained for reference. If any member of the teaching team is unable to locate an email message sent from an alternate address, **the official assumption will be that such an email never existed and any business which may have been discussed is null and void.**
- **Retain all related e-mails at the bottom of any response you send and place your response at the top.** I will not search through previous e-mails to attempt to discover the topic of our e-mail exchange, nor will I search through a message for new information.
- Please include the name you prefer to be called **AND YOUR TEAM NUMBER**. **Any email that does not contain the student's team number will not be answered.**
- Include a greeting and salutation in all your e-mails.
- Content questions that require in-depth or visual explanation are inappropriate for e-mail and you will receive a response asking you to come to office hours to have the question answered.
- Note that the times of the day that members of the teaching team read and respond to e-mail are listed on the web site under “E370 Teaching Team”.
- Direct your e-mail to only **ONE** member of the teaching team, with the option of copying one other member. For example, you may send a message to your coach and choose to copy your grader on that message. **Do not, however, send your message to every member of the teaching team.** You will **not** receive a response.
- Do not use e-mail in an emergency situation and expect an immediate response.

**A general note about any written submission in the course: Everything** submitted in this course, whether it is Reading Question responses, exam answers or email is read by a live human being who has some input into your final grade. Be careful not to say anything in any submission that you would not want to read in something sent to you.

**No-Response E-mails:**

- Any e-mail which contains hostile or accusatory language will remain unanswered and the sender will be reported to the appropriate authorities.
- **Any e-mail sent requesting a change of grade for any reason other than an error in calculation or recording of points will remain unanswered.**

- Any e-mail sent which contains student opinions about the “fairness” of the course or exams will remain unanswered.
- **Any email that does not contain the student's team number will not be answered.**

## Office Hours and Study Assistance

Many opportunities are offered for assistance outside of class. Students are encouraged to take advantage of as many of these resources as necessary to perform successfully in this course.

**Friday Concept and Problem Sessions:** Professor Camp will be holding general help sessions every Friday afternoon from 2:00 to 3:30 PM in WH004. This interval is that over which classes are held on Monday and Wednesday. Professor Camp will bring pre-planned activities and problems, but will gladly work on any particular items of interest to those who attend. Additionally, Professor Camp will help students develop a “concept map” approach to course content, and will demonstrate the use of such a map to solve problems.

**Office Hours:** (See page 16 for suggestions for office hour use.) Each member of the E370 Teaching Team has scheduled office hours set aside specifically to answer student questions. The team consists of Lab Coaches (AIs) and Graders, all of whom have office hours. A student may seek assistance from any member of the teaching team during his or her stated office hours. The office hours for the entire team are posted on the online course under “Class Information” and on the Econstat web site under “Teaching Team Email and Office Hours.” Office hours are held in WY305.

**Email Checking Times:** The time of day when your lab coach or I will check our email for messages is posted on the online course under “Class Information” and on the Econstat web site under “Teaching Team Email and Office Hours.”

**Private Tutors:** Many students feel they can benefit from a private tutor. Many of the best students from previous semesters are willing to tutor. Some of their names and contact information are listed on the online course under “Class Information” and on the Econstat web site under “Private Tutors.” This information is provided for your convenience only and any arrangements you make are strictly between you and the tutor.

## Grading Matters

**Grading Scale:** Grades are assigned based on the percentage of total points earned out of 1000, according to the scale on the right. There is no “curve” in this class, however, you can see the grading scale is adjusted for the level of difficulty of the class. Note that normal rounding rules are followed when determining a grade. That is, anything ending in 0.5 or greater rounds up, and anything less than 0.5 rounds down.

**Grade Posting:** All scores for all activities and final grades are posted on Post’Em accessible via Oncourse. Grade books will be updated weekly.

**Grading Errors:** If you believe that there is a grading **error** on an exam, quiz or other work, you have one calendar week from the time the disputed score was **posted** to ask for clarification or regrading. Failure to pick up quizzes, papers or

| Final Grade Break Points in Percent |             |             |
|-------------------------------------|-------------|-------------|
| Grade                               | Upper Limit | Lower Limit |
| A                                   | 100         | 90          |
| A-                                  | 89          | 88          |
| B+                                  | 87          | 86          |
| B                                   | 85          | 78          |
| B-                                  | 77          | 76          |
| C+                                  | 75          | 74          |
| C                                   | 73          | 66          |
| C-                                  | 65          | 64          |
| D+                                  | 63          | 62          |
| D                                   | 61          | 54          |
| D-                                  | 53          | 52          |
| F                                   | <52         | no final    |

exams forfeits your right to regrading. See below for specific instructions about how to request that grades be corrected.

**Grade Freezes:** Posted scores will be frozen on **Saturday, March 3, 2012 at 12:00 Noon** and again on **Saturday, April 14, 2012 at 12:00 Noon**. There will no longer be any possible adjustment to the posted scores after these dates. Thus, all claims of grading errors or “missing” scores **from the beginning of the semester through Exam Two, February 27**, must be resolved by **March 3**. Likewise, all claims of grading errors or “missing” scores **from Reading Questions due February 29 through Exam Four, April 9** must be resolved by **April 14**. It is imperative that students are fully informed of their standing in the class, and this policy is to ensure that students pay attention to their recorded scores.

**Grading:** We need to make a distinction between “grading” and “recording grades”. Some of the grading for the course is done electronically, such as all multiple choice exams which are graded by machine. For the pieces of work that require manual grading, your Coach is assigned a Grader who grades Pre-Lab Quizzes and End-of-Lab Quizzes for your section using a universal key. All graders share the grading of the written lab exams. Your coach will personally grade all parts of the Team Project. Graders read and score Reading Question submissions.

**Recording and Posting Scores:** The Grader is also responsible for keeping a record of all your scores and for submitting scores for posting. All questions about grading and recording of scores or points must be directed to the Grader assigned to your coach. You will find information about who your grader is and how to contact him or her on the online course under “Class Information” and on the Econstat web site under “Teaching Team Email and Office Hours.” Specific office hours have been set aside for the purpose of meeting with your grader. You will find graders’ office hours in this same spot on the site.

**Grade Corrections:** Print the Post ‘Em screen that includes the points you dispute. Photocopy the evidence you have that supports your dispute. Take both items to WY105 and ask that they **be put in your Grader’s box within one week of the day the exam or an assignment grade was posted**. **E-mail requests will not be honored**. Remember:

- You will need to know your grader’s name in order to turn in such requests.
- While correction requests submitted by e-mail will not be honored, it is ALWAYS a good idea to send an e-mail to the grader saying that you have submitted a request for correction at the time you turned in the paper work to WY105. Keep a copy of the e-mail until the points dispute is resolved.
- If you don’t pick up your assignments and exams, you will not be allowed to ask for corrections.
- Check your grades regularly so that you won’t be sorry at the end of the semester **when you will be unable to do anything about it**.
- Remember the dates of the grade freezes. (See above.)
- **Do NOT bring your score corrections to me.**

## Study Suggestions

**Math Skills:** Students in this course are frequently concerned about their level of mathematical skill. There are lots of good math review books available at every book store in town. In particular, if you look for the *Schaum’s Outline Series* display at your favorite book store you will find several paperback workbooks that can give you a good basic math review. Another book I used when I went back to school was a workbook called *Forgotten Algebra: A Self-Teaching Refresher Course* by Barbara Lee Beau. I found it very helpful. It is still being published. Actually, the computer does most of the math. **YOU** need to be a good problem solver.

**Problem Solving Skills:** An excellent book that discusses problem solving techniques is *How to Solve It, 2<sup>nd</sup> ed.*, G. Polya, Princeton University Press, 1957/1985. Polya presents four steps to follow to a problem’s solution. They are: 1) Understand the problem, 2) Devise a plan, 3) Carry out the plan, 4) Check the result. You will find these steps explained in detail on pages *xvi* and *xvii* of his book. Additionally, a web search will locate several sites with lists of problem solving “methods.”

**Note Taking Skill:** To master statistics you must practice and organize, organize and practice. One important helpful skill is note taking. Most students, however, are not efficient note takers. I strongly recommend a visit to one or more of these sites:

- <http://www.sas.calpoly.edu/asc/ssl/notetaking.systems.html> This site explains 5 different note-taking methods, and includes a Word document version.
- <http://www.ucc.vt.edu/stdysk/cornell.html> This site presents the Cornell method of note-taking only.
- <http://www.dartmouth.edu/~acskills/success/notes.html> This site not only has printable documents on various note-taking situations, it also has excellent documents designed to improve listening skills.

**Concept Mapping Skills:** A very close relative to note taking skill, is developing your skill to think abstractly. One of the best ways to do this is to learn about Concept Mapping. Take a look at these sites. These are just a few. There are literally hundreds of other sites.

- [http://en.wikipedia.org/wiki/Concept\\_map](http://en.wikipedia.org/wiki/Concept_map) (I don't usually refer to a Wikipedia page, because the information is not validated, however, this entry is about the idea of concept mapping, and is useful if only for that.)
- <http://www.google.com/images?q=concept+mapping&biw=1920&bih=897> I found 273 individual images of concept maps here. Lots of good examples that are maps of how to make a concept map.
- <http://myskillmentor.com/mindmapping.htm>
- <http://cmap.ihmc.us/publications/researchpapers/theorycmaps/theoryunderlyingconceptmaps.htm>

**Excel Skills:** If you feel uncomfortable about the level of your Excel skills, a little book called Succeeding in Statistics, R.E. Schiffler & A. J. Adams, Duxbury, 1999 will help you get up to speed. It contains information and exercises to help you get around in Excel. While this little book was written for an earlier version of Excel, it still has enough basic information to be of help. I have several copies if you would like to borrow one.

**Study Skills:** Students who are successful at Statistics regularly engage in many of the following study behaviors.

1. Attend class.
2. Organize notes into study guides, that is, create sheets of formulas, definitions, concepts, things to remember.
3. Do problems.
4. "Play" with their Tool Cards, that is, shuffle them and organize them in different ways, look for the links that exist between concepts.
5. Make concept maps, using a big sheet of paper and brightly colored Post It notes.
6. Go through their notes and write questions in the margin next to the answer.
7. Study in groups.
8. Compare notes with class mates.
9. Create sample exams and take them.
10. Outline notes, articles and important sections of chapters.
11. Read the text assignments and write questions in the margins next to the answer.
12. Study out loud.
13. Study regularly, not at the last minute.
14. Study sufficiently. Students report that the more time spent working on problems and talking about statistics, the more they understand and the better the grade.
15. Visit the instructor during office hours.

**Statistics Pitfalls:** Some common misconceptions students have can get them into trouble grade-wise in this course.

1. Statistics is all math—I can't do math!
2. I'm a little behind, but it is the beginning of the semester. I have plenty of time to catch up.
3. Since I will have the formulas, I don't have to practice problems.
4. Since I will be doing calculations only on the computer, I don't need to know how to write the commands.
5. The first exam was a piece of cake—I don't need to study for this class!
6. Statistics is pointless. The computer does all the work, anyway.

**Student Suggestions:** Former students have volunteered the following advice.

- “Do as many problems as you can, using the computer.” R. P.
- “Use your team. My grade went up by one full letter when I started using my team well.” M. K.
- “I figured out by the middle of the semester that I understood lecture more when I read the book first and I learned more when I did all the problems. I wish I had started at the beginning of the semester.” K. V.
- “I type my notes into the computer after every class. It really helps me cement the ideas and tells me what I don't really understand so I am ready for the next class with questions.” L. L.
- “Nothing is as good as drawing those dumb pictures! It's a pain in the ass but it sure saved me from making mistakes on tests.” K. W.
- “The workbook was great! I could see the big picture because I answered all the questions. It made everything fit together.” S. K.
- “This class is about solving problems. I solved a lot of problems until I was good at it.” F. R.

## Additional Resources

**Video Help:** A three tape video series can be found at the library. It is entitled “The High Stakes World of Statistics” by the Standard Deviants. We will likely see some clips from it in class. You may find that viewing portions of it will help you understand the scope of statistics. It must be viewed in the Media/Reserve section of the library, which is where you will find it. **Note:** the statistics taught in the video are not always identical to those we will learn, however it is excellent for concepts.

**Other Texts:** The big problem with the readability of statistics texts is that *YOU* don't know any statistics! **To be successful in statistics**, students should have at least two texts, one that serves as a reference guide and main text and one that can clear away any fog which might arise from the first. The books listed below can all be found in the main library. The list is a small fragment of all the options available. The books range from non-technical “intuitive” books to dictionaries of terms and formulas. Some classics from the world of statistics are included. You may find an alternate text among these. If you can't find one that works for you, come and see me about other suggestions. I have lots of books from which to choose.

### **CARTOON GUIDE TO STATISTICS**

Author: GONICK, LARRY.

### **DICTIONARY OF STATISTICAL TERMS.**

Author: MARRIOTT, F. H. C.

### **DICTIONARY/OUTLINE OF BASIC STATISTICS**

Author: FREUND, JOHN E.

### **ENVISIONING INFORMATION**

Author: TUFTE, EDWARD R.

### **FLAWS AND FALLACIES IN STATISTICAL THINKING**

Author: CAMPBELL, STEPHEN K.

**HOW TO LIE WITH STATISTICS**

Author: HUFF, DARRELL.

**HOW TO THINK ABOUT STATISTICS**

Author: PHILLIPS, JOHN L.

**INTRODUCING STATISTICS: A GRAPHIC GUIDE**

Authors: MAGNELLO, EILEEN & BORIN VAN LOON

**INTRODUCTION TO THE PRACTICE OF STATISTICS**

Author: MOORE, DAVID S.

**MAKING SENSE OF STATISTICS : A CONCEPTUAL OVERVIEW**

Author: PYRCZAK, FRED.

**MISUSED STATISTICS : STRAIGHT TALK FOR TWISTED NUMBERS**

Author: JAFFE, ABRAM J.

**STATISTICAL REASONING**

Author: SMITH, GARY

**STATISTICS : A SPECTATOR SPORT**

Author: JAEGER, RICHARD M.

**STATISTICS : AN INTUITIVE APPROACH**

Author: WEINBERG, GEORGE H

**STATISTICS WITH A SENSE OF HUMOR : A HUMOROUS WORKBOOK AND GUIDE**

Author: PYRCZAK, FRED.

**STATISTICS : CONCEPTS AND CONTROVERSIES**

Author: MOORE, DAVID S.

**STATISTICS BY EXAMPLE**

Author: SINCICH, TERRY.

**STATISTICS WITHOUT TEARS : A PRIMER FOR NON-MATHEMATICIANS**

Author: ROWNTREE, DEREK.

**STATISTICS YOU CAN'T TRUST : A FRIENDLY GUIDE TO CLEAR THINKING**

Author: CAMPBELL, STEPHEN K.

**VISUAL DISPLAY OF QUANTITATIVE INFORMATION**

Author: TUFTE, EDWARD R.