



Statistics for Psychologists - 300/500 (Secs. 5 & 6)

Dr. M. Plonsky- Spring, 2017 (Last update 1/22/17).

Lectures are on Tuesdays & Thursdays from 11-12:15 p.m. in Sci-D216.

Laboratory sections are on Mondays & Wednesdays from 12-1:50 p.m. in Sci-D214.

Please bookmark this page, print it, & use it as a reference throughout the semester.

Contents & Resources

Course Description - [goals](#), [books](#), [attendance](#), [exams](#), [homework](#), [grading](#), [expectations](#), [additional issues](#), [contact info](#).

Tentative Class Schedule

Psychological Statistics Hypertext (Index) - notes, lab exercises (& answer keys), Minitab tutorials, HWs, etc.

Grade Postings ([Grading Code Collection Form](#) - please fill out during the first week of class).

Course Description

A. GOALS

Our main goal will be to learn a variety of statistical techniques which are useful in scientific research. We will also try to learn the rationale behind the techniques and will place emphasis on the application of these techniques to psychology. Finally, since statistical calculations are typically performed with the aid of computers, we will learn how to use the *Minitab* statistical computing program and a little bit of the *Microsoft Excel* Spreadsheet.

These days, educational institutions talk about Learning Outcomes which are descriptions of what students should be able to know and do following a particular course or program. UWSP identifies the following Learning Outcomes for courses satisfying the Quantitative Literacy requirement of the UWSP General Education Program. Thus, by completing this course, you should be able to:

1. Select, analyze, and interpret appropriate numerical data used in everyday life in numerical and graphical format.
2. Identify and apply appropriate strategies of quantitative problem solving in theoretical and practical applications.
3. Construct a conclusion using quantitative justification.

More specifically, the American Psychology Association (APA) provides the following related learning outcomes. By successfully completing this course, you should be able to:

1. Explain different research methods used by psychologists. (APA Objective 2.2)
2. Interpret basic statistical results. (APA Objective 2.3.a)
3. Distinguish between statistical significance and practical significance. (APA Objective 2.3.b)
4. Describe effect size and confidence intervals. (APA Objective 2.3.c)
5. Use appropriate software to produce understandable reports of statistical analyses in APA style. (APA Objective 6.2)

B. BOOKS & SUPPLIES

We will use two texts. One is available online and the other in print (available from the college bookstore):

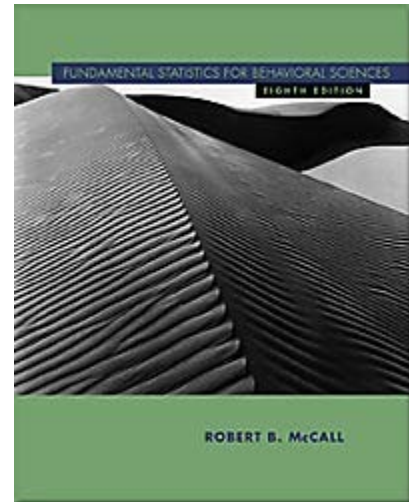
1. Plonsky, M. (2015). *Psychological Statistics: An Online Hypertext (Vers. 3.22)*. Retrieved from the Web January 18, 2016.

<http://www4.uwsp.edu/psych/stat>.

This is a comprehensive Hypertext. It has the course lectures, laboratory session exercises (& answer keys), Minitab tutorials, and various other resources that we will use in the class. It will be best for you to print at least some of this. I will talk about and give tips for this the first day of lecture, so please hold off on any printing until then.

2. McCall, R. B. (2001). *Fundamental Statistics for Behavioral Sciences* (8-th edition). CA: Brooks Cole.

This text is a supplement to the course. It covers the same material and uses the same mathematical notation system as what we will use in class. It is noteworthy that it has exercises at the end of each chapter (including Appendix 1), which it then provides answers for in Appendix 5 (beginning on Page 502). These exercises can be useful study aids.



The **computer programs we will use are accessible from** all campus computers via the start menu (MS Excel) or via the Network Menu (Minitab). The software can also be accessed from your home or dorm room via the [Remote Computer Lab](#).

You will need a **handheld calculator**; a simple one with addition, subtraction, multiplication and division (as well as squares & square roots) will do fine. You will also need some type of storage media (flash drives, cloud drives, etc) for work we do on the computer. UWSP gives you cloud storage (H: drive) as part of your student account. Note that while you are welcome to use your cell phones as calculators in class and during laboratory sessions, their use will not be permitted during exams.

I **strongly recommend** that you read Appendix I in McCall (a review of basic mathematics) as soon as possible. If you do not feel comfortable with this material, study it until you do. If you need help, find me, our Teaching Assistant, a friend good in math, or the reference cited in McCall's Appendix. If you still do not feel comfortable with this

material, I recommend that you postpone taking this course until you do (in other words, drop the course ASAP). If you don't master the material in Appendix I (to about 80% proficiency), you will have great difficulty in this class and will most likely fail. Thus, it is important to address the issue of whether you are prepared for this class quickly.

C. ATTENDANCE

According to the university [Attendance Policy](#), you are to "Attend all your classes regularly". While I do not formally take attendance, it is unlikely that you will do well in the course if your attendance is poor. This is due to the difficulty and cumulative nature of the material. It requires in class discussion where questions are asked, answers are given, and understanding is more likely to be obtained.

All of the lectures are available as part of the [online hypertext](#). You are expected to print out the material. It is best if you study the relevant material *before* coming to class. The purpose of the lecture will be to carefully go over this material and to allow for questions to make sure you thoroughly understand it.

The primary purpose of the laboratory sessions will be to provide you with hands-on exercises relevant to the material covered in lecture. (These exercises, as well as the answer keys to them, are also available in the [online hypertext](#).) A secondary purpose of these sessions is to provide time to go over homework assignments and exams. ***Note that the laboratory sessions during the first week of classes are canceled.***

If you miss a lecture or laboratory session, it will be to your benefit to find out what occurred during that session *from a classmate*. Also, while you are only scheduled for one laboratory session, you are welcome to attend either or both. If you have to miss your scheduled session for whatever reason, I encourage you to try to attend the other section offered that week.

D. EXAMS

Four exams will be given. Each will consist of a mixture of multiple choice questions, short answer, essay, and written problems, etc. The exams will primarily cover material since the previous exam. However, the material is cumulative and thus the exams will reflect that. The final, in particular, tries to pull all of your skills together and thus has more of a cumulative element than the other exams.

You are encouraged to use calculators during class as well as during exams and I will provide you with a copy of [the formulas shown on the inside covers of the textbook as well as statistical tables](#) for use during exams. Note that you are required to print (rather than using cursive) on the exams. If you are wearing a hat with a brim, I will ask you to turn it around or take it off when taking exams. I will post exam scores [on the web](#) after each of the exams for students who [give me a code](#) to do so. By the way, until I post the grades for the first exam, you will be able to see the grades I gave the last time I taught this course at the [grade posting](#) link. Lastly, testing accommodations for students with disabilities are coordinated through the [Disability and Assistive Technology Center](#) on campus. Please be sure to take care of these arrangements well ahead of time.

E. HOMEWORK

Homework (HW) assignments will be due on (most) Fridays at 11:15 a.m. The tentative schedule below includes links to the HW assignments as well as the week they are due. Some points to note include:

- HW should be handed in to the appropriate box in the Psych. Dept. Office (Science D-240). Note, the Office is closed daily from 11:45-12:30 for lunch hour. When you walk into the office, you will see the image to the left. Your HW should be placed in the box with my name on it shown in the lower left of the shelf in the picture. HW left in my dept. mailbox or slipped under my office door will be put in the box shown in the picture when I am able and may be penalized for lateness as a result.



- If you do any writing by hand, you are required to print (rather than using cursive) on the HW assignments.
- Electronic submission of HW is acceptable (if you have the skills/equipment). When submitting HW electronically, email it (along with any attachments as a *single* email) to the Teaching Assistant and cc (carbon copy) me. Include the course (P300) and the HW Assignment number in the subject line of the email. For example, "P300 HW#1".
- Note that for a given HW, it must be submitted completely in paper form or completely electronically. Thus, you cannot hand in *part* of a HW electronically. Also, all work in the electronic version you send must be readable. In other words, it must use file formats that are supported on campus and any files in it must open properly. It is your responsibility to test this and if there are any problems, you will be penalized. In other words, technology problems will not be considered a legitimate excuse.

- For each "*business day*" that a homework assignment is handed in late, it will lose 10% of its possible value. However, the last homework assignment (due at our last class session) will NOT be accepted if handed in late.
- Given that the homework assignments are graded, please do not ask me or the Teaching Assistant to "*look over*" your homework before handing it in.

F. GRADING POLICY

- Each exam will contribute 1/5 of the final grade. Performance on the homework assignments will contribute the remaining 1/5 of the final grade. There is no provision for "*extra projects*" to improve grades. However, I **MAY** increase your grade beyond that which is indicated by the arithmetic average of your test/HW scores for any of the following three reasons:
 1. Constructive lecture and laboratory session participation (attendance will be taken during the labs).
 2. Improvement over the semester.
 3. One test score that is significantly lower than the other three.
- I will post exam scores on the web a couple of days after each of the exams for students who give me a code to do so as well as provide you with a conservative estimate of your *overall* performance in the course after each exam. By the way, until I post the grades for the first exam, you will be able to see the grades I gave the last time I taught this course at this link.
- If you are wearing a hat with a brim, I will ask you to turn it around or take it off when taking exams. Music players (e.g. ipods, cellphones) are not allowed during exams.
- Cheating on an exam will lead to an automatic failure of that exam and possibly other penalties. For more details see the document entitled, "Student Academic Standards and Disciplinary Procedures" (a PDF file). For a simple and less technical read, try this document on Academic Integrity.
- Failure to show up for an exam results in failure of that exam. If you must miss an exam, let me know **BEFORE** the exam takes place or written documentation of the emergency will be required. Furthermore, if you miss more than one exam written documentation is required.
- If you wish to reschedule an exam, send me an email no more than one week prior to the occurrence of the exam. I will then send you an email with the times that the psychology department has available for make-up exams (typically there are 3 times available each week). Your reply to my email with your choice of a date & time will then serve as my reminder to give the proctor your exam. You are allowed to reschedule an exam in this manner one time in a given semester before written documentation is required. Note that *in this particular class, I do not recommend postponing any exam* unless absolutely necessary. Lastly, a makeup exam must be taken within 2 weeks of the original exam date.
- Concerning withdrawing from a class, it must be done in a timely manner in accordance with UWSP's published deadlines. Failure to do so could result in a failing grade or the loss of reimbursable tuition fees.

G. EXPECTATIONS

What I expect from you:

1. To agree to study this syllabus carefully (ASAP) & refer to it when questions arise about the class.
2. To acknowledge that effort, by itself, is not enough to justify a worthy grade. In other words, you are graded primarily on the *merit of your performance* in the class rather than the *amount of effort* you put into the class.
3. To acknowledge that previous academic preparation (e.g., biology, math, etc.) matters. Those who are better prepared are likely to do better in the class.
4. To attend class & give your full attention to the material, as well as conduct yourself in an appropriate manner (e.g., not having personal conversations during lectures or performing other activities that disrupt the class). As noted earlier, I believe class discussion to be a necessary ingredient for the class to accomplish its goals. Thus, if class participation is not forthcoming, I will call on people at random.
5. To meet the obligations of the course (e.g., reading, assignments, etc.) and not make excuses for your failure to do so.
6. To treat everyone in class, including the professor, with respect.
7. To check your university email account several times each week. I will make announcements via this medium.
8. To not plagiarize or otherwise steal the work of others.
9. To understand & adhere to your [Rights & Responsibilities](#) as a UWSP student.
10. To turn off or silence cell phones when in class.

What you can expect from me:

1. To manage the class in a professional manner. This may include educating you in appropriate classroom behavior. While I am quite tolerant of inattentiveness, I am not at all tolerant of disruptive behaviors.
2. To prepare carefully for each class & begin & end it on time.
3. To try to learn your name (if class size permits) & to recognize your individuality & treat you with respect, as well as to be honest with you. I apologize in advance for being bad with remembering names.
4. To treat all students equally. Thus, I will not discriminate on the basis of your identity, appearance, gender, race, creed, color, viewpoints, disability, whether I like you or not, or anything else.
5. To have 3 office hours each week during which you are welcome to stop by (no appointment necessary). See [contact info](#) for more detail.
6. To give grades primarily based on the quality of your work.
7. To return your grades quickly (with your permission) & with detailed feedback. For example, I will provide you with an overall estimate of your grade prior to the 10th week of the semester drop deadline. In addition, students wishing to go over their exams with me individually, are welcome to come by during my office hours.

8. To be honest about what I know. If I do not know something, I will say so (and then I will probably look it up).
9. To treat any plagiarism, cheating, or other violations of academic integrity harshly.
10. To silence my cell phone when in class.

H. ADDITIONAL ISSUES

Use of Electronic Devices

Audio recording of what goes on in class is permitted only with my explicit permission. I do not permit any video recording, however, you can take pictures of slides I present to the class. You may not distribute any audio recordings or images of slides. In other words, what is presented in this classroom should not be presented anywhere else. Keep in mind that if these rules are broken, there can be legal consequences.

International students are admitted to UWSP with the understanding and documentation that they have the English-language proficiency necessary to be successful in our courses. Since I realize that language can still be an issue, I will permit hard copy dictionary use during exams for these students. Note however, that use of electronic translation devices will not be permitted.

Emergency Procedures

- In the event of a **Medical Emergency**, call 911 or use one of the red emergency phones located around the campus. Offer assistance if trained and willing to do so. Guide emergency responders to the victim.
- In the event of a **Tornado Warning**, proceed to the basement of the building. Avoid wide-span rooms.
- In the event of a **Fire Alarm**, evacuate the building in a calm manner.
- In the event of an **Active Shooter**, "*Run/Escape, Hide, Fight.*" If trapped hide, lock doors, turn off lights, spread out and remain quiet. Call 9-1-1 when it is safe to do so. Follow instructions of emergency responders.
- See [UWSP Emergency Management](#) plan for additional details.

Title IX Legislation

Due to Title IX legislation (federal law), if any disclosure of unreported neglect or abuse of a child, elder, or disabled individual is made to a University instructor, he or she is required to report such information to the appropriate administrative or law enforcement officials. This includes instances of sexual harassment/assault of an adult, bias and hate crimes, etc.

I. CONTACT INFORMATION

My office is located in Science B-341. I will have office hours Tuesdays & Thursdays from 12:15-1:15 p.m., and Wednesdays from 3-4:00 p.m. (or you can arrange to see me by appointment at some other mutually convenient time). **Note that my office hours do NOT require an appointment.** If my door is closed, please knock. You can see a visual

of my [schedule here](#). You can reach me at 346-3961 (and please leave a message if I am not available) or through electronic mail at mplonsky@uwsp.edu. Do not hesitate to contact me if you have any questions.

When sending me an email, please following the directions below carefully. It will ensure a more timely and relevant response from me. I typically reply within 1-2 business days.

1. **Use the “Subject:” line.** It should summarize the point of the email in a couple of words.
2. **Tell me which class is involved.** I typically teach 3 classes & have about 100-250 students each semester.
3. **Write professionally.** In other words, use whole words and sentences, unlike texting where you might use the minimal amount of letters you can get away with. A worthy website regarding this issue is [Netiquette](#) by C. Pirillo.

We will have a Teaching Assistant for this course. Contact information and office hours for this person will be provided via email during the first week of classes.

Tentative Class Schedule

Barring illness on my part or other such unforeseen emergencies, we will stick with this schedule. If changes are necessary they will be announced in class and via email. Note that links to the lecture topics, laboratory exercises (with answer keys), MTB tutorials, and other such resources are most easily navigated to via the [index](#) of the [online hypertext](#).

WK	DATES	TOPICS	READINGS	LAB Sessions	HW Due
1	1/23-26	Orientation & Introduction	Appendix 1	*Canceled*	none
2	1/30-2/2	Research Design	Chap. 12	Math Review	<u>1</u>
3	2/6-9	Preliminary Concepts	Chap. 1	Prelim Concepts	<u>2</u>
4	2/13-16	Distributions & Graphing	Chap. 2	Distributions	<u>3</u>
5	2/20-23	Central Tendency	Chap. 3	Exam 1 Review	
2/23-Th		FIRST EXAM			<u>4</u>
6	2/27-3/2	Variability		CT & Variab	<u>5</u>
7	3/6-9	Relative Standing	Chap. 5	Relat Stand	<u>6</u>
8	3/13-16	Correlation	Chap. 7	Correlation Exam 2 Review	

3/16-Th		SECOND EXAM			<u>7</u>
<i>-- Spring Break --</i>					
9	3/27-30	<u>Hypothesis Testing</u>	Chap. 8	Dichotomous	<u>8</u>
10	4/3-6	<u>One Sample Tests</u>	Chap. 9	1 sample	<u>9</u>
11	4/10-13	<u>Two Sample Tests</u>	Chap. 10	2 sample	<u>10</u>
12	4/17-20	"		Exam 3 Review	
4/20-Th		THIRD EXAM			
13	4/24-27	<u>Simple ANOVA</u>	Chap. 14	1 way ANOVA	<u>11</u>
14	5/1-4	<u>Factorial ANOVA</u>	Chap. 15	2 way ANOVA	<u>12</u>
15	5/8-11	<u>Nonparametrics</u> (if time permits)		Exam 4 Review	<u>13</u>
5/17-We		FINAL EXAM (8-10:00 a.m.)			



Comments? mplonsky@uwsp.edu.