

University of Florida
College of Public Health and Health Professions
Department of Clinical and Health Psychology
Course Syllabus

CLP 6527, Measurement, Research Design and Statistics I

Fall 2013, Section # 0225 (3 credits)
Blended learning class: Lectures online
Weekly class meeting, Tuesdays Periods 2-3 (8:35 – 10:25 am), HPNP G312
Optional review sessions with TA Mondays at 5:30 pm (HPNP G-111)
<http://lss.at.ufl.edu>

Instructor:

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Office Hours: during optional study sessions
Other times may be available by appointment.

Course description:

In the Graduate Bulletin, these two courses are described as "Integration and interaction among research design, tests and measurements, and statistics." This is a challenging integration, and means that the many topics we will consider include

- scientific method,
- internal and external validity,
- principles guiding the design, conduct, and evaluation of measures,
- interpretation and dissemination of statistical results,
- distributions and central tendency,
- inference making,
- reliability theory,
- evaluation of reliability and validity,
- item analyses,
- General linear model and its embedded simple statistical procedures
 - evaluation and comparison means,
 - correlation,
 - regression,
 - one- and multi-way analyses of variance with both between- and within-subjects factors,

With regards to statistics, where appropriate, statistical topics are modeled with the SPSS statistical package, with the conduct of analysis and interpretation of output as key features This

is intended to supplement course readings, and to support students in the conduct of their own analyses for class. For some analyses, we will also use student versions of other software (e.g., G*Power) to conduct analyses that cannot be done in SPSS.

Students will be required to conduct analyses and bring computers/tablets during weekly Tuesday sessions! Distracted behavior (e.g., web-surfing during class) is strongly discouraged. Note that when you bring laptops/tablets, that there are **very few electrical outlets** in PPHP classrooms, so you'll want to make sure your battery can hold a 2-hour charge, and that it is charged up before each class.

This class is reading- and homework-intensive. Almost every week includes some written work. For most of us statistical topics can remain abstract (and therefore hard to learn and remember) unless they are applied and practiced. Homework is the principal vehicle for this applied learning.

The instructor is neither a statistician or a mathematician. This course is about applied use of statistics and research design in the service of answering research questions of interest to psychologists. For deeper mathematical treatments of the underlying assumptions and formulae, students are referred to coursework in Statistics and Mathematics.

Course objectives:

1. The student will understand the assumptions and conditions governing the appropriateness of the analytic procedures considered in this class, and the research designs under which such procedures are appropriate.
2. The student will have an appreciation for the major issues governing the choice of research strategies, including cost, ethics, time available, personnel, state of measurement.
3. The student will be an informed user of statistical software, able to implement each of the major analytic techniques on a computer and able to interpret the results.
4. The student will be able to identify which procedures are best suited for particular research questions.

Course format

The course will be conducted in the form of blended learning. By Tuesday morning at 8:35 am of each week (unless otherwise noted), students will receive an online lecture for the week. Students are **REQUIRED** to have listened to the online lecture material **NO LATER THAN** Tuesday morning of the following week. In-person classes (see below) will assume students have reviewed the material. In person meetings will occur on Tuesday from 8:35 am – 10:25 am (with a 5-minute break from 9:30-9:35). These are group problem-solving sessions, in which students are expected to bring their computer and tablet and – either individually or together – apply techniques and concepts used in the lecture. These group sessions will support student conduct of homework. Homework is the principal vehicle for making in-class exercises concrete. Students are expected to use their own problem solving skills to gain access to computers and software and to figure out how to invoke and use statistical software.

The teaching assistants will run an optional tutorial session to discuss upcoming homework, previous homework grading, or unanswered questions from class, Mondays at 5:30 pm in HPNP G111.

Prerequisite:

Formal prerequisites are either (a) admission to doctoral study in Clinical and Health Psychology, (b) admission to doctoral study in the Department of Psychology; **or** (c) admission to doctoral study in Rehabilitation Sciences, Health Services Research, Management and Policy, or Speech, Language and Hearing Sciences. All other students must apply for special admission through the Curriculum Committee of the Department of Clinical and Health Psychology. See Debora Haring, dharing@phhp.ufl.edu for the appropriate forms and procedures. Students applying for admission outside the pre-requisite areas require instructor permission and should arrange to talk to me first.

Students must have access to the SPSS software package and be comfortable with its use (i.e., have an understanding of how to load the program, read data files, enter and access data, run analyses and obtain printout). **See the computer resources section below for special notes on computer and software resources!**

Reading materials:

There are two kinds of readings for this course. One book is **required** for the course (both the first and second semester) and is listed below. Additional supplemental required and recommended materials (journal articles, sample syntax, websites) will be made available via e-mail as the course progresses, typically as Adobe pdf files. Books have been ordered through the University of Florida's "Text Adoption" service and should be available at any participating bookstore.

Required

Field, A. (2013). Discovering Statistics Using IBM SPSS Statistics (Fourth Edition). London: Sage. ISBN: 9781446249185. (*Field, in reading chart below*)

Additional readings as indicated, made available via class website

NOTE: THE TRACKING OF READINGS TO LECTURE IS APPROXIMATE! USUALLY, WE TRY TO HAVE YOU READ **AHEAD OF LECTURE, TO "PRIME THE PUMP". ALSO, WE USUALLY TRY TO HAVE THE READINGS PROVIDE ADDITIONAL/SUPPLEMENTAL MATERIAL THAT YOU WILL NOT HEAR IN CLASS.**

Additional Recommended Resources:

In many weeks, there is a video viewing recommendation. *These videos are denoted as AAO in the reading chart below.* Videos are taken from the Annenberg/CPB project series, “Against All Odds,” a series of 26 basic-education statistics videos. Each video is one half-hour in duration. Course content generally complements what we are discussing in class, although the videos often provide useful practical and graphical illustrations of concepts. The videos are available free of charge in streaming Windows Media format. **You should have access to a high-speed internet connection** (e.g., most on-campus computers) when viewing these videos. (Note, for students in PHHP: Watching videos via terminal server is discouraged, due to slow screen refresh times). The website is <http://www.learner.org/resources/series65.html>. You will have to complete a one-time free-registration, and have cookies enabled. Then, click the “Individual Program Descriptions” to get to individual programs. Click the “VOD” icon (video on demand) to access your program.

Two websites related to Andy Field’s book also include helpful additional slides, self-test questions, and even demonstration videos. Please visit Andy’s personal website <http://www.statisticshell.com/apf.html> , and the Sage website for his book: <http://www.sagepub.com/field3e/student.htm> .

Course website:

The class uses the UF elearning portal for posting of supplemental readings, copies of overheads, audio files, self-assessment examinations. Log on at <http://lss.at.ufl.edu> (Sakai) and you should find the course link there. Course assignments and data sets will be posted there. The online lectures and handouts will generally be made available by Tuesday morning of each week. An announcement will be sent to the class list when the handouts have been posted.

Grading procedure and scales:

Percentage grades in this class are earned on the basis of points (described below), which are then converted to letter grades and grade point equivalents (as shown in the chart below).

Percentage or points earned in class	93%-100%	90%-92%	87%-89%	83%-86%	80%-82%	77%-79%	73%-76%	70%-72%	67%-69%	63%-66%	60%-62%	Below 60%				
Letter Grade equivalent	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar’s Grade Policy regulations at <http://www.registrar.ufl.edu/staff/minusgrades.html>

On the course schedule below is listed the date on which each assignment is distributed to the class. Assignments are always due, in Sakai, immediately before class time on their due date; this is usually 8:34 am. At the end of each class (CLP 6527, CLP 6528) there will be an online **Final Exam. For CLP 6527**, this exam is a multiple choice exam. It will occur **Wednesday December 11, 2013, 10 am – 11 am** (official UF exam time).

The grade for the class will be based on your assignment scores, your in-class exercise submissions, and your final exam. **Note:** The number of assignments and exercises is not set in stone; we might have to add or remove an assignment, depending on class progress. If this occurs, the remaining assignments will be prorated so that they still, collectively, contribute 60% to your final grade. In addition, even if the assignments differ in the number of points that they are worth, each assignment will be weighted to contribute equally to your final grade. So, if we have 6 assignments, each one is worth 10% of the grade. If we end up having only 5 assignments, each one is worth 12% of grade. All assignments count for the exact same percentage of your grade, even if they are individually worth a different number of points.

Homework Assignments (All students)

60% of grade

In most weeks, on Thursday, a homework assignment will be given; it is typically due the following Thursday. (Exact schedule below). The assignments are designed to be mostly quantitative work (implementing skills from that week's class). ***The quantitative work may cover material covered in class, in your readings, or both.***

When you submit your assignments to Sakai, it is essential that (a) you put your name in the "name" field of the homework, and (b) the first word of your assignment document title be your LAST NAME. After 2 reminders about this, a 2-point deduction will be made on each homework for which these naming conventions are forgotten. See below for additional policy on late submissions.

Assignments will consist of multiple items. Each and every item will have equal weight and will be graded according to the rubric below. (Note: partial points, e.g., 7.5, are permissible; TAs may also score out of range for specific reasons.)

0	not attempted
7	“mercy point” (e.g., you really don’t deserve a point, but because you made some attempt, this is acknowledged; example: doing a stepwise regression when the question asks for hierarchical); note: there must be SOME evidence of relevant effort; random text would earn a “0”
8	doing the correct analysis, but coming up with the wrong numbers (e.g., choosing the wrong DV or IV combination)
9	substantially correct, but either (a) missing one or more essential item (e.g., you conduct a regression and include the regression table, but fail to discuss or interpret it), or (b) you include too much information (e.g., you include tables/figures that are not needed for the answer, and you also fail to defend/explain why it is relevant). Teaching assistants will provide you with a list of missing elements upon grading
10	adequate/all required elements are present

In addition to reinforcing content learned in class, homework questions are designed to provide students with experience analyzing, presenting and discussing research methods and results for a scientific audience. Students are therefore encouraged to think carefully about the information needed to adequately address each question. The following guidelines are intended to facilitate this process:

- Each question will have defined length-of-response guidelines.
 - Do not exceed these guidelines—they are usually more generous than is needed to answer the question (there will be a grade penalty for alterations).
 - If you paste figures or tables, use the “Paste Special” feature to paste as a “**picture**” or “**bitmap**”, so that the output can fit within the space provided.
- Be judicious in your selection of output. Including output that is not relevant to the problem, or that is not discussed in your answer, will lead to a grading penalty being applied. Homeworks will not be scrutinized for compliance with APA format unless this is explicitly requested.

Students who are confused about the meaning/phrasing of a question are welcome to ask for clarification on the class discussion in Sakai.

In class exercises

12% of grade

In many weeks, there will be in-class problem solving exercises. These will not be posted in advance. They will be posted/distributed at the beginning of the Tuesday class (and will expire by the end of the class). Students will receive verbal instructions regarding what to post during the class (typically it may be a selection of output, or a brief interpretation, or what is posted might vary by small group). These will be graded on a presence/absence basis. Each posting will be worth an equal % of the 12% (i.e., if there are 12 exercises, each one will be worth 1%; if there are 10 exercises, each one will be worth 1.2%).

Final exam28% of grade

This one-hour exam will be scheduled during the UF Exam period (details below). The exam will consist of 25 multiple choice questions; the exam will be administered via Sakai on Wednesday December 11, 2013, 10 am – 11 am at the class Sakai portal (in the “Assessments” tab). The exam covers the entire semester (both lectures and readings). Students are strongly urged to keep up with the multiple-choice self-assessments in most weeks, as these are close in content and format to the actual exam questions. The exam requires a good internet connection; UF “best practices” for online exams will be reviewed in class.

Incomplete grades:

An incomplete grade may be assigned at the discretion of the instructor as an interim grade for a course in which the student has 1) completed a major portion of the course with a passing grade, 2) been unable to complete course requirements prior to the end of the term because of extenuating circumstances, and 3) obtained agreement from the instructor and arranged for resolution (contract) of the incomplete grade. Instructors assign incomplete grades following consultation with Department Chairs.

For extra help:

The instructional team will make every effort to support students in understanding course content and reading materials. The following resources are available for this purpose:

Class Discussion. The class question-and-answer discussion board will occur in Sakai (“Discussion” link), and will be monitored by the entire instructional team. Unfortunately, due to the limitations of Sakai, questions can no longer be posted anonymously.

Note #1: You can receive notifications whenever the discussion board is updated. Simply go to “Discussions” and select “Watch” in the upper Discussion menu. In the “Watch” link, select “Notify me by email whenever a new message is posted”.

Note #2: We ask that you minimize sending questions **directly** to the TAs/instructor to ensure that

- (a) your classmates can share in the insights by reading the blog
- (b) the instructional staff does not end up answering the same question multiple times.
- (c) you benefit from the possibility of receiving responses from any of the three instructional members, rather than just the person you e-mailed.

For these reasons, emailed questions will be strongly discouraged, unless they relate to highly personal and idiosyncratic issues. Emailed questions may receive the response of “please post this on the blog so it can be answered”. If you are afraid that your question will give away the answer, please think about how to rephrase it so that it does not give away the answer. If this is not possible, then you may e-mail the instructional staff directly.

Weekly Review/Help Session. The teaching assistants have arranged a regular “workshop” Mondays at 5:30 pm, HPNP G111, to discuss homework and materials from the previous class. These review sessions will be held each week when there is homework due; on weeks without

homework, a review session will be held only if requested by the students (requests should be submitted on the blog).

Office Hours and Appointments. Dr. Marsiske has designated office hours (see top of syllabus for details). Additional “extra help” appointments can be made with the instructor or TAs, if needed. Note, though, that these are not intended as a venue for, in essence, re-teaching the course. Instructional staff is more than willing to help, but students *must* first complete these steps before requesting additional assistance:

- Review the blog in case it provides clarification
- Re-examine the notes from class
- Listen to the accompanying audio.
- Read (or re-read) the readings from that week.
- Consider watching the associated video, and/or Andy Fields’ supplemental notes (<http://www.statisticshell.com/apf.html>), and then click the “Statistics Hell-P” link) at his website or at the Sage website (<http://www.sagepub.com/field3e/>, you may need to complete a free registration)

In reviewing the above resources, students are asked to write down specific questions about the material that is causing confusion. If you have, in good faith, put in the work to improve your understanding, then the instructional staff can build on all your preparatory work and really help you over the “humps”.

Software/computing resources:

The "official" software language of this course will be SPSS (whatever the latest version supported by PHHP is). **All students must have access to the full-featured version of SPSS, regardless of specific version number.** See note above. Students are **required** to bring tablets/computers to weekly class meetings, and they will be **required** to conduct SPSS analyses in class.

- Students in PHHP will access SPSS via our terminal server (ts.php.ufl.edu). You will need a terminal services compatible remote desktop client. This is free in Windows. For iOS clients, the rdp app (not the free one) is the best. For Macs, a free remote desktop client (CoRD) and instructions are available at <http://it.php.ufl.edu/2012/03/12/terminal-server/>
- Students not in PHHP will access SPSS via the <http://info.apps.ufl.edu/> website. (Please see that site for technical instructions, as I do not have access to it, and cannot provide more guidance).

These are both virtual machines, which means you can run SPSS on any Windows, MAC, or even tablet (iOS, anyway) machine. In the event that you want your PERSONAL copy on your PERSONAL machine, you will want to buy the SPSS Graduate Pack PREMIUM Edition (no lower version will suffice) AND AMOS (sold separately). SPSS should be at the bookstore, or you can purchase online at <http://onthehub.com>; as far as I know, <http://onthehub.com> is your only source if you choose to purchase AMOS.

All students must also be able to access course materials, which will be distributed electronically as Microsoft PowerPoint, Microsoft Word (Office 2003 and Office 2007; if you have an earlier version of Office, you may need to install the free “Compatibility Pack”), or Adobe Acrobat files. In the first class, all students will complete an e-mail register; students are responsible for updating the instructor on e-mail changes throughout the term. **All** class materials will be distributed by e-mail or Sakai site, so regular and frequent checking is a necessity.

For those wishing not to print course notes, students are welcome to bring their laptops to class, although distracted behavior (e.g., web-surfing during class) is strongly discouraged.

University’s Honesty Policy: (cheating and use of copyrighted materials)

Academic Integrity – **Students are expected to act in accordance with the University of Florida policy on academic integrity (see Student Conduct code, the Graduate Student Handbook, or this web site for more details:**

www.dso.ufl.edu/judicial/procedures/academicguide.php).

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

*"We, the members of the University of Florida community,
pledge to hold ourselves and our peers to the
highest standards of honesty and integrity."*

On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is desirable and expected that take home assignments will stimulate conversation among classmates, and that classmates may actually mentor one another in the work. Students are also likely to discuss elements of the assignment with the instructor. **It is expected that submitted work will solely reflect the student's own efforts. Students are expected not to collaborate** in running analyses, writing answers, or interpreting results. The TAs and instructor will regularly check for “unusual congruence” in answers and will discuss concerning instances with students involved. Where collaboration has been found, a zero grade will be assigned. **For further clarification, please see the “Acceptable Collaboration” appendix to this syllabus! Rules will be strictly enforced.**

Copyright policy: The University of Florida policy on copyright states: "Copyright permission should not be required of instructors in the following circumstances:

- 1) A single copy of an article, chapter, or poem is on reserve for only *one semester*.

2) A reasonable number of copies of an article, chapter, or poem are placed on reserve for only *one semester*. "Reasonable" is determined by an assessment of the number of students assigned the reading, the difficulty of the reading, and the time frame allowed for completion of the reading. This should normally not exceed 6 copies, although up to one copy for every 15 students may be accepted if space is available in the reserve area and the above criteria are met."

Article and material distribution for this class will be discussed in the first class meeting.

Class Attendance:

It is the expectation of the faculty in Clinical and Health Psychology, and Psychology, that all students attend all classes. Students are expected to be present for all classes, since much material will be covered only once in class. Weekly in-class meetings will generally require in-class submissions of material...this can only be done in class, and during class time. Thus, **physical attendance is required.**

As a matter of mutual courtesy, please let the instructor know when you're going to be late, when you're going to miss class, or if you need to leave early. Please try to do any of these as little as possible. Students who have extraordinary circumstances preventing attendance, or who must leave early, should explain these circumstances to the course instructor prior to the scheduled class, or as soon as possible thereafter. The instructor will then make an effort to accommodate reasonable requests. If you must miss a class, please request notes from your classmates about the exercises/discussion you missed.

Make-up Exams or Other Work:

Extra credit - No planned opportunities for extra credit exist in this course.

General policy on missed work - It is expected that no students will miss any assignments or in-class tests/exams. **No make-ups will be possible.**

With regard to missing or incomplete assignments, the following policies apply:

- Graders will not contact you about missing or incomplete assignments. **It is your responsibility** to check that the *correct* assignment has been submitted to e-learning on time.
- The late policy below applies **ONLY** to homework. In-class exercises (which are graded on a submitted/non-submitted basis) may **NOT** be turned in late, and will be assigned a grade of zero if missed.
- **It may be possible to avoid a late penalty IF YOU CONTACT THE INSTRUCTOR AT LEAST 24 HOURS IN ADVANCE.** You should email both Dr. Marsiske and your teaching assistant, and explain what issue (e.g., bereavement, illness) necessitates lateness. In some cases, documentation may be requested. If a lateness allowance is agreed to, this applies to a single assignment only. It does not allow you to delay future assignments. Note, conference attendance or doctoral qualifying examinations or thesis/dissertation defenses do not constitute valid lateness excuses.

- If your assignment is late, you will lose 10% each day. Thus, if an assignment is worth 30 points, you will lose 3 points for each late day. “Late” begins one minute after the due time (e.g., an assignment due at 8:34 am is considered late at 8:35 am). Penalties are as follows:

1 minute to 24 hours late	10% of maximum deducted from achieved grade
1 day + 1 minute late to 48 hours late	20% of maximum deducted from achieved grade
2 days + 1 minute late to 72 hours late	30% of maximum deducted from achieved grade
3 days + 1 minute late to 96 hours late	40% of maximum deducted from achieved grade
4 days + 1 minute late to 120 hours late	50% of maximum deducted from achieved grade
5 days + 1 minute late 144 hours late	60% of maximum deducted from achieved grade
6 days + 1 minute late 168 hours late	70% of maximum deducted from achieved grade
7 days + 1 minute late 192 hours late	80% of maximum deducted from achieved grade
8 days + 1 minute late 216 hours	90% of maximum deducted from achieved grade
9 days + 1 minute late or later	100% of maximum deducted from achieved grade

NOTE: UPLOADING THE WRONG DOCUMENT IS SAME-AS-LATE, even if you have documentation that you completed the document on time. **It is your responsibility to verify that you have uploaded the correct document.** (You should open or download your uploaded homeworks and double- or triple-check that you have uploaded the right one).

- There will be **no** exceptions to this policy.
- If you have uploaded the wrong document, and e-learning does not allow you to correct this, you should IMMEDIATELY send the correct document to Dr. Marsiske and your teaching assistant via email.
- If you cannot upload a document due to technical problems (e.g., if e-learning is down), you may e-mail your assignment to Dr. Marsiske and your teaching assistant. The timestamp on your e-mail will serve as the time submitting. In such cases, please upload your assignment to e-learning as well, once the technical issue is resolved.

Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (<http://oss.ufl.edu/>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: www.health.ufl.edu/shcc

Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789.

BUT – Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

Tentative Course Calendar

Note: Readings/video recommendations for each week are shown in the table immediately following this calendar

Week: One (8/22)

Topics: Course introduction, analysis roadmap

Assignment distributed: none

Assignment due: none

Week: Two (8/27 and 8/29)

Topics: Hypothetico-deductive cycle, philosophical considerations

Assignment distributed: none

Assignment due: none

Week: Three (9/3 and 9/5)

Topics: Threats to internal and external validity, introduction to distributions

Assignment distributed: 9/5

Assignment due: 9/12

Week: Four (9/10 and 9/12)

Topics: Characterizing variation, z-scores, assessing distributions and the impact of loose protocols

Assignment distributed: 9/12

Assignment due: 9/19

Week: Five (9/17 and 9/19)

Topics: Introduction to inferential testing, Type I and II errors, probability

Assignment distributed: 9/19

Assignment due: 9/26

Week: Six (9/24 and 9/26)

Topics: Assessment of distributions

Assignment distributed: None

Assignment due: None

Week: Seven (10/1 and 10/3)

Topics: Normalizing transformations

Assignment distributed: 10/3

Assignment due: 10/10

Week: Eight (10/8 and 10/10)

Topics: confidence intervals of proportions and means, error bars,

Assignment distributed: None

Assignment due: None

Week: Nine (10/15 and 10/17)

Topics: standardizing transformations, correlational designs vs. correlational analysis, Winsorizing distributions,

Assignment distributed: 10/17

Assignment due: 10/24

Week: Ten (10/22 and 10/24)

Topics: correlation, multi-collinearity, general linear model, introduction to regression, standardized vs. unstandardized coefficients simple regression,

Assignment distributed: None

Assignment due: None

Week: Eleven (10/29 and 10/31)

Topics: part and partial correlation, residuals, sums of squares in regression, suppressor effects, positive r-squared bias, plotting regression lines,

Assignment distributed: 10/31

Assignment due: 11/7

Week: Twelve (11/5 and 11/7)

Topics: non-linear trends, inference testing in regression, dummy coding, product term interactions (moderated regression) and centering,

Assignment distributed: none

Assignment due: none

Week: Thirteen (11/12 and 11/14)

Topics: hierarchical regressions Stepwise regressions, F-drop tests,

Assignment distributed: 11/14

Assignment due: 11/21

Week: Fourteen (11/19 and 11/21; **no in-person meeting on 11/19 – online only**)

Topics: regression diagnostics and outliers, robust regression

Assignment distributed: none

Assignment due: none

Week: Fifteen (11/26; **no in-person meeting this week – online only**)

Topics: Mediated regression

Assignment distributed: 11/26 (note early pre-Thanksgiving Tuesday distribution)

Assignment due: 12/3 (note Tuesday due date)

Week: Sixteen (12/3)

Topics: Student questions; this week will be to address student questions in preparation for the exam; there will be no new online content; please come prepared with questions.

Online final exam, Wednesday December 11, 2013, 10 am – 11 am (official UF exam time)

Readings/supplemental materials

Course	Week	Topic	Field	Other	AAO
1	1	Course introduction, analysis roadmap	1		1
1	2	Hypothetico-deductive cycle, philosophical considerations	2	Kazdin 2, 4	14
1	3	Threats to internal and external validity, introduction to distributions	3	Howell 2-3	2
1	4	Characterizing variation, z-scores, assessing distributions and the impact of loose protocols	4	Salkind 8	3
1	5	Introduction to inferential testing, Type I and II errors, probability		Howell 4-5	4
1	6	Assessment of distributions	5		18
1	7	Normalizing transformations			
1	8	confidence intervals of proportions and means, error bars,		Martella 7, Kazdin 17,	5, 19, 15
1	9	standardizing transformations, correlational designs vs. correlational analysis,	7		
1	10	correlation, multi-collinearity, general linear model,	8		

Course	Week	Topic	Field	Other	AAO
		introduction to regression, standardized vs. unstandardized coefficients simple regression,			
1	11	part and partial correlation, residuals, sums of squares in regression, suppressor effects, positive r-squared bias, plotting regression lines,		Salkind 13	8
1	12	non-linear trends , inference testing in regression, dummy coding, product term interactions (moderated regression) and centering,	10	Licht 2	9
1	13	hierarchical regressions Stepwise regressions, F-drop tests,		Hair 4	11
1	14	regression diagnostics and outliers, robust regression			25
1	15	Mediated regression		Baron & Kenny (1986), web links	

Note: additional readings will be added throughout the semester

Caveat:

The above schedule and procedures in this course are subject to change in the event of extenuating circumstances. Any changes will be announced *in class*, and the student is personally responsible for obtaining updated information regarding those changes.

Appendix: Acceptable Collaboration

On Collaboration

What constitutes acceptable levels of collaboration in this class? Please just treat this as "continuing education". It is here for your reference, but if (after reading this) you feel like you may have gone beyond acceptable and want to discuss it, please get in touch with me or one of the teaching assistants at your convenience.

The short answer about how much collaboration is acceptable is "As specified in the syllabus, and in the UF Honor Code". Let's review those items quickly, and then go a little deeper.

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1. UF Honor Code:

A key phrase in this honor code relates to "ambiguity": "It is the responsibility of the student to seek clarification on whether or not use of materials or collaboration or consultation with another person is authorized prior to engaging in any act of such use, collaboration or consultation. If a faculty member has authorized a student to use materials or to collaborate or consult with another person in limited circumstances, the student shall not exceed that authority. If the student wishes to use any materials or collaborate or consult with another person in circumstances to which the authority does not plainly extend, the student shall first ascertain with the faculty member whether the use of materials, collaboration or consultation is authorized. "

<http://regulations.ufl.edu/chapter4/4041-2008.pdf>

Key phrasing with regard to collaboration:

(a) Plagiarism. A student shall not represent as the student's own work all or any portion of the work of another. Plagiarism includes but is not limited to:

1. Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution.
2. Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authored by the student.

(b) Unauthorized Use of Materials or Resources ("Cheating"). A student shall not use unauthorized materials or resources in an academic activity. Unauthorized materials or resources shall include:

1. Any paper or project authored by the student and presented by the student for the satisfaction of any academic requirement if the student previously submitted substantially the same paper or project to satisfy an academic requirement and did not receive express authorization to resubmit the paper or project.

2. Any materials or resources prepared by another student and used without the other student's express consent or without proper attribution to the other student.

3. Any materials or resources which the faculty member has notified the student or the class are prohibited.

4. Use of a cheat sheet when not authorized to do so or use of any other resources or materials during an examination, quiz, or other academic activity without the express permission of the faculty member, whether access to such resource or materials is through a cell phone, PDA, other electronic device, or any other means.

(c) Prohibited Collaboration or Consultation. A student shall not collaborate or consult with another person on any academic activity unless the student has the express authorization from the faculty member.

1. Prohibited collaboration or consultation shall include but is not limited to:

a. Collaborating when not authorized to do so on an examination, take-home test, writing project, assignment, or course work.

b. Collaborating or consulting in any other academic or co-curricular activity after receiving notice that such conduct is prohibited.

c. Looking at another student's examination or quiz during the time an examination or quiz is given. Communication by any means during that time, including but not limited to communication through text messaging, telephone, e-mail, other writing or verbally, is prohibited unless expressly authorized.

2. It is the responsibility of the student to seek clarification on whether or not use of materials or collaboration or consultation with another person is authorized prior to engaging in any act of such use, collaboration or consultation. If a faculty member has authorized a student to use materials or to collaborate or consult with another person in limited circumstances, the student shall not exceed that authority. If the student wishes to use any materials or collaborate or consult with another person in circumstances to which the authority does not plainly extend, the student shall first ascertain with the faculty member whether the use of materials, collaboration or consultation is authorized.

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2. Syllabus:

The syllabus says:

"On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

"On my honor, I have neither given nor received unauthorized aid in doing this assignment".

It is desirable and expected that take home assignments will stimulate conversation among classmates, and that classmates may actually mentor one another in the work. Students are also likely to discuss elements of the assignment with the instructor. It is expected that submitted work will solely reflect the student's own efforts. Students are expected not to collaborate in running analyses, writing answers, or interpreting results. The TAs and instructor will regularly check for "unusual congruence" in answers, and will discuss concerning instances with students involved. Where collaboration has been found, a zero grade will be assigned."

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3. So what does this mean:

Because acceptable levels of collaboration can get "gray" in data analysis courses, the examples that follow below try to set some limits on "acceptable" vs. "unacceptable" situations:

ACCEPTABLE: Student 1 says to Student 2: "I'm so confused...do I put the predictor in the "fixed", "random" or "covariates" box?" The collaborating student expresses his or her opinion

UNACCEPTABLE: Sitting down and doing the analysis together.

ACCEPTABLE: Student cannot make a syntax run, no matter what. Second student reviews the syntax, and maybe even goes so far as to say, "why don't we sit in front of a computer, and show me what you're doing?" Based on what the second student see, he/she may make suggestions regarding how to get the syntax to run...BUT NOT suggestions on what variables are selected, etc.

UNACCEPTABLE: Three students sit around a computer together, then save a common output, which each then uses to do the homework. Each person SHOULD have run the analysis independently. If the students need to sit around the computer with someone, it probably should have been with an instructor.

ACCEPTABLE: Running the analysis independently and writing it up independently.

UNACCEPTABLE: "Was the main effect of smoking significant for you? It WAS? It wasn't for me. I better rerun the analysis and figure out where I went wrong." Don't change your results based on what someone else got.

Now, these are just random examples. What the Honor Code says is that "when in doubt, ask first". This is consistent with HIPAA, FERPA, and many clinical activities.

If you find yourself drawn to excessive collaboration because what you REALLY need is more instructional support, please let the instructor/TA know.

Excessive collaboration triggers an official process (<http://www.dso.ufl.edu/sccr/faculty/>); to avoid it, please draw a clear firewall between YOUR work, and the work of other students in the class.