# University of Florida

# College of Public Health & Health Professions Syllabus

**CLP 6528, Measurement, Research Design and Statistics II (3 credit hours)**

**Spring 2023, Course Number 10835**

Meeting time/place: Tuesdays Periods 2-4 (8:35-11:30 am)

<https://ufl.zoom.us/j/99812361953?pwd=U3VBb3dIeXdEUGNhczdpZi94QzBtQT09>

Meeting ID: 998 1236 1953, Password: 933323

**Note**: Only Authenticated UFL.EDU users can sign in (details below)

Delivery Format: Blended learning/flipped classroom

# Course Website or E-Learning: <http://elearning.ufl.edu>

|  |  |  |
| --- | --- | --- |
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| Response/feedback policy | within 24 hours (48 hours weekends/closures) | |
| Office Hours | By appointment | |
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| Preferred course communications | Via email | |

### Prerequisites

Must have successfully completed CLP 6527.Must be a graduate student in good standing in Clinical and Health Psychology, Psychology, Rehabilitation Sciences, Communication Sciences and Disorders, Speech, Language and Hearing Sciences, Health Services Research, Management and Policy. All others must petition.

## PURPOSE AND OUTCOME

### Course Overview

In the Graduate Bulletin, these two courses are described as "Integration and interaction among research design, tests and measurements, and statistics." This course considers group mean comparisons (t-test, ANOVA) under a variety of circumstances (one-sample, independent groups, repeated measures), as well as the inclusion of covariates, robust (bootstrapped) approaches, and non-parametric approaches. In addition, the course considers effect size calculation and statistical power analysis, categorical data analysis (chi-square and categorical effect sizes measures), diagnostic ratios and ROC analysis, logistic regression, cluster analysis, psychometrics (especially multiple approaches to reliability assessment). Additional topics may be covered throughout the course, if time and interest allow. As an applied course, substantial effort will be expended on analysis picking (i.e., selecting the right analysis approach given the hypothesis under evaluation, the measurement characteristics of the predictor and outcome variables, and whether underlying assumptions can be assumed to have been met. Analyses will be implemented in R and RStudio, with a strong emphasis on the interpretation of analyses.

### Relation to Program Outcomes

This course is required in Clinical and Health Psychology and Counseling psychology in fulfillment of one their “quantitative/data analysis/methodology” requirements.

### For Accreditation Site Visitors

Complete references for the reading materials may be found in the Appendix to this syllabus. An overview of coverage of tests/measurement/psychometric topics across our four research design/measurement/statistics may be found at this [psychometric link](http://phhp-marsiske.sites.medinfo.ufl.edu/for-students/classes/tests-and-measurement-coverage-in-clp-courses/). . An overview of coverage of research design and methodology topics may be found at the [research design link](http://phhp-marsiske.sites.medinfo.ufl.edu/for-students/classes/research-design-and-methods-coverage-in-clp-courses/).

### Course Objectives and/or Goals

Content domains: t-test, ANOVA (one-way, two-way, multiway, between, within, mixed), ANCOVA, non-parametric tests, equivalency tests, robust approaches, effect size and power analysis, sensitivity/specificity/receiver operating characteristics, chi-square tests, categorical measures of association, odds ratios and epidemiological designs, logistic regression (binary, multinomial, ordinal), cluster analysis, validity and MTMM designs, reliability.

| Dimension | Objective | Learning activity/ies | Evaluation |
| --- | --- | --- | --- |
| Knowledge | **Read** textbook and primary source meetings; class powerpoints and transcripts.  **Identify** the major topics covered each week and the relationship to the course roadmap  **Reproduce** simple analysis and data strategies demonstrated in lecture | Online lectures, online demonstrations, readings | Self-testing and mastery learning; multiple-choice examination |
| Comprehension | **Define** the major concepts/terms each week  **Describe** the appropriate situations in which to use techniques demonstrated  **Differentiate** among different approaches (e.g., different kinds of transformations or analysis strategies) and their strengths and weaknesses | Online demonstrations , In-class discussion readings | Self-testing and mastery learning, in-class practice exercises, multiple-choice examination |
| Application | **Calculate** major coefficients and summary statistics  **Chart** key findings and interpret  **Choose** the best analysis/transformation for a given situation  **Extend** basic analysis situations demonstrated in class to more complex data problems | Online demonstrations , Hands-on class sessions, Team-based problem solving | Self-testing and mastery learning; in-class practice exercises, data analysis homework (output generation) |
| Analysis | **Break down** the multiple results of a data analysis into constituent pieces  **Examine** variable distributions and determine if conformal for analysis  **Interpret** the results of analyses with regards to the substantive questions being asked  **Recommend** next steps or areas in need of clarification to improve the analysis | Team-based problem solving, In-class discussion, coaching/mentoring | Peer-review and group self-evaluation, data analysis homework (analysis selection and output interpretation) |
| Synthesis | **Collaborate** with group members to determine the best solution to a complex problem  **Combine** multiple sources of information (e.g., information regarding distributions and analytical question)  **Construct** an appropriate analysis strategy for a multi-part data problem  **Model** independent/dependent variable relationships using the appropriate techniques given distributions and questions | Coaching/mentoring, Team-based problem solving | Multiple choice examination (questions combining multiple aspects of the course); homework (multi-component data-analysis problems) |
| Evaluation | **Appraise** the quality of the data and the admissibility of solutions generated  **Assess** the fit/quality of the solution and recommend next steps  **Compare/contrast** solutions generated under multiple approaches to transformation or data analysis  **Prioritize** and select the best choice for data analysis, given available data and distribution and research question. | Coaching/mentoring, Team-based problem solving | Homework (data-analysis problems requiring you to judge effectiveness of the solution); group self-evaluation discussions |

### Instructional Methods

This is a blended learning course. Specifically, it uses a flipped classroom (lectures online, in person meetings for collaborative problem solving)

### Blended Learning

### *What is blended learning and why is it important?*

A Blended Learning class uses a mixture of technology and face-to-face instruction to help you maximize your learning. Knowledge content that, as the instructor, I would have traditionally presented during a live class lecture is instead provided online before the live class takes place. This lets me focus my face-to-face teaching on course activities designed to help you strengthen higher order thinking skills such as critical thinking, problem solving, and collaboration. Competency in these skills is critical for today’s health professional.

### *What is expected of you?*

You are expected to actively engage in the course throughout the semester. You must come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. If you are not prepared for the face-to-face sessions, you may struggle to keep pace with the activities occurring in the live sessions, and it is unlikely that you will reach the higher learning goals of the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

### *Things to keep in mind*

Because I post material on line, you can go back and review it as many times as needed to feel comfortable with the material prior to the live class. Please keep in mind that you have to allocate your time wisely to take full advantage of the blended learning approach.

## DESCRIPTION OF COURSE CONTENT

### Topical Outline/Course Schedule

(note: Readings are sometimes on topics ahead of the current week, to help prepare you for later weeks)

| Week | Class meeting | Date to complete quiz by (8:35 am) | Topic(s) | Readings | Assignment due date |
| --- | --- | --- | --- | --- | --- |
| 0 | Jan 10 | n/a | Introduction to the course, review of syllabus | n/a | n/a |
| 1 | Jan 17 | Jan 17 | Brief course review; tools review; new feedback and question processes; Analysis roadmap, introduction to t-test | Field, 9  Salkind 10-11  Heiman 15-16  Cumming, G., & Fidler, F. (2009) | Jan 23 (CR) |
| 2 | Jan 24 | Jan 24 | T-test, confidence interval, one-factor ANOVA | Field, 10  Schweigert 5 | Jan 30 (FR) |
| 3 | Jan 31 | Jan 31 | Control groups, orthogonal polynomials, orthogonal planned contrasts | Field 12, Kazdin 7-8 | Feb 6 (CR) |
| 4 | Feb 7 | Feb 7 | Non-orthogonal contrasts, post-hocs, 2-way ANOVA, simple effects decomposition, plotting confidence intervals | Field, 13 | Feb 13 (FR) |
| 5 | Feb 14 | Feb 14 | Repeated measures ANOVA: one-way, two-way, mixed between-within | Field, 14  Schweigert 6-7 | Feb 20 (CR) |
| 6 | Feb 21 | Feb 21 | ANCOVA, non-parametrics | Field, 11, 15  Tabachnick 8 | Feb 27 (FR) |
| 7 | Feb 28 | Feb 28 | Bootstrapped ANOVA, effect sizes | (interspersed in Field 9-14)  Heiman 21  Patten 54-59  Rosnow & Rosenthal (2009) | Mar 6 (CR) |
| 8 | Mar 7 | Mar 7 | Cohen’s effect sizes | Hazdi-Pavlovic (2007, 2009)  Howell 8  Gpower Guide  Dennis et al (1997)  Murphy (2002) | Mar 20 (FR) |
| 9 | Mar 21 | Mar 21 | Equivalency analysis; chi-square analysis | Field 18  Howell 6  Rogers et al (1993)  Barker et al., 2002 | Mar 27 (CR) |
| 10 | Mar 28 | Mar 28 | Odds ratios, sensitivity/specificity/ROC analysis, review of case-control & cohort designs | Heiman 21  Hazdi-Pavlovic (2008a, b, c)  Meirik | Apr 3 (FR) |
| 11 | Apr 4 | Apr 4 | Binary logistic regression | Field 8,  Afifi & Clark 12 | Apr 10 (CR) |
| 12 | Apr 11 | Apr 11 | Multinomial logistic analysis and ordinal logistic analysis | n/a | Apr 17 (FR) |
| 13 | Apr 18 | Apr 18 | Cluster analysis | Norusis  Mackert  Clatworthy  Shaw | Apr 24 (CR) |
| 14 | Apr 25 | Apr 25 | Tests and measurement, classical test theory, MMMT designs, reliability, internal consistency, inter-rater reliability | Links from Trochim & Social Research Methods  Patten 25-31; Shrout & Fleiss 1979  Garson’s StatNotes | Apr 25 in class (FR) |
|  |  |  | Final take-home analysis picking exam due Mon May 1, 11:59 am (before noon!); Final multiple choice exam (per UF exam schedule) online Mon May 1,3:00 pm – 4:00 pm |  |  |

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.

## Course Materials and Technology

Using Zoom:

Where public health guidelines require our in-person meetings to be virtual, we will use Zoom for virtual class meetings. Please *carefully* read these instructions:

1. If you have a previous version of Zoom, *uninstall/delete it*.
2. Log in with your UF credentials at <https://ufl.zoom.us/>
3. Install the most recent version of the Zoom client <https://ufl.zoom.us/download#client>
4. Log in with the SSO button (**do not** just type a user name or password). You will be prompted for your UF user name and password
5. Once you are logged into a UF authenticated instance of Zoom, click the link to get into the meeting <https://ufl.zoom.us/j/99812361953?pwd=U3VBb3dIeXdEUGNhczdpZi94QzBtQT09> (if the link doesn't work, the Meeting ID is 998 1236 1953 and the meeting Password is 933323)
6. You will be placed in a waiting room. When the class time begins, the instructor will let you into the virtual classroom
7. At points in time, you will be placed in Zoom breakout room where you will be interacting with group members. Prior to class, please click the Zoom "gear" icon, and check your video and audio to make sure you have a working microphone and camera.

### "Camera on" request (optional):

The structure of the class is such that: (a) we will begin each class as a meeting of the whole, reviewing lecture materials, taking on new content, and having open discussions, and then (b) we will move into small breakout groups, during which we will solve data analysis problems. For both parts of the class, please keep your camera on. Camera-on assists with engagement and avoids de-personalization.As noted elsewhere in this syllabus, your camera images will not be recorded without your permission. That said, this is a *request*; we understand and support that some students may exercise their right to leave the camera off.

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. In addition to UF-affiliated bookstores, you may be able to find an affordable e-book version at [VitalSource](http://vitalsource.com), or competitively priced hardcopy books at [BigWords](http://bigwords.com) (which compares multiple sellers).

A note on the book: We have been using the author's (Andy Field's) SPSS book since 2004; this course represents a transition into R. Andy Field's 2012 book remains the best book for discussion of statistical concepts and application, but it is out of date with regard to R. Field's second edition is not anticipated until late 2023.

##### *Required*

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 (***Field, in reading chart below***)

Additional readings as indicated, made available via class website. Complete references for the reading materials may be found at [this link](http://phhp-marsiske.sites.medinfo.ufl.edu/for-students/classes/references-for-clp-6527652865297525-readings/)

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:

For extra background, please take a look at a video series from the Annenberg/CPB project “Against All Odds,” a series of 32 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). [Visit the series website](https://www.learner.org/series/against-all-odds-inside-statistics/). You may 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](https://www.discoveringstatistics.com/) , and the [Sage website for his book](https://studysites.sagepub.com/field4e/main.htm):

### Software/computing resources:

The "official" statistical programming language of this course will be R, and the official IDE for your programming will be R-Studio. Students should arrive at the first class with these languages installed on their computers. (It is also possible to use R and R-Studio on the UF Apps Server, details below). Students are **required** to bring tablets/computers to weekly class meetings, and they will be **required** to write R-code and conduct data analyses in class.

* R is available without cost (single use copies). First install the appropriate version of R from <http://archive.linux.duke.edu/cran/> (if you have an earlier version, please update to the most current version)
* RStudio Desktop is available without cost (single use copies). \*After you have installed R\*, install the appropriate version of RStudio from <https://rstudio.com/products/rstudio/download/>
* R and RStudio are also available via the http://info.apps.ufl.edu/ website. (Please see that site for technical instructions; you will need to install a small Citrix client on your machine the first time you use it).
  + This is a virtual machine, which means you can run R on any Windows, MAC, or even tablet (iOS, anyway) machine.

All students must also be able to access course materials, which will be distributed electronically as Microsoft PowerPoint, Microsoft Word (PHHP currently supports the most recent version of Office), or Adobe Acrobat files. This software is available free to UF students via [Office365 link](http://www.it.ufl.edu/2015/01/free-office-365-downloads-available-to-faculty-and-staff/) or via the [App Server](http://apps.ufl.edu). 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 Canvas site, so regular and frequent checking is a necessity. If you have internet access issues, you can connect via wifi in most campus buildings, and can also use computer in most UF libraries and computer laboratories. See <https://uflib.ufl.edu/using-the-libraries/computers-and-equipment/> and <https://labs.at.ufl.edu/>

For technical support for this class, please contact the UF Help Desk at:

* [Learning-support@ufl.edu](file:///C:\Users\hackg\Desktop\Learning-support@ufl.edu)
* (352) 392-HELP - select option 2
* <https://lss.at.ufl.edu/help.shtml>

Technology access provided by the University of Florida

Although the University of Florida requires students to have continuous access to a computer, resources are available to students to help students who may not have hardware and software access. As noted by the UF Computing Policy, "[t]he university provides both physical and virtual computer labs that include access to numerous software packages. While the university provides these services to all students, they are not intended as the sole means for students to meet this requirement. The university has also negotiated free or discounted student options for many software packages which are available through Software Licensing Services." Student computer labs are available at all UF libraries, including Smathers, Marston Science, Education Library, and the Health Science library in Communicore. Most software and personal storage space can be accessed without charge at the university virtual server <https://apps.ufl.edu>. Secure, encrypted University of Florida file storage is available via UF-branded Dropbox, Google Drive and Microsoft OneDrive services.

## ACADEMIC REQUIREMENTS AND GRADING

### Quizzes (1% each)

Each week, there is a mastery quiz to submit. This consists of a few simple true/false, multiple choice, or short answer questions probing the content of that week’s lecture and/or readings. These are online in Canvas, and must be submitted prior to each week’s class (Tuesdays at 8:35 am). Note: YOU ARE LOCKED OUT OF ALL SUBSEQUENT CANVAS CONTENT UNLESS YOU PASS EACH QUIZ WITH AT LEAST 80% CORRECT. EVEN IF YOU ARE GOING TO MISS A CLASS, YOU MUST COMPLETE THE QUIZ EACH WEEK BEFORE THE DEADLINE. THERE ARE NO EXCEPTIONS OR EXTENSIONS; YOU HAVE AT LEAST SEVEN DAYS TO COMPLETE EACH QUIZ.

### In-class Assignments (1% each—but see exception in Week 14)

Each week, there is an *in-class collaborative assignment* to submit (all members of a team must submit the same assignment). This is graded for presence/absence. These must always be posted to Canvas by 10:35 am of the day in which they are due

*Note that in the last week, our “in class” work counts as homework (will be done without an answer key, and with reduced collaboration), and thus is worth 3%. The final in-class assignment cannot be missed/skipped, and is not available for the “missed class” credit (next paragraph). Late submissions of this final in-class homework will be permitted, under the late penalty schedule below*.

Note: There is a 2% credit for missed in class submissions. In other words, students can miss up to two in-class submissions without losing points. It is not possible to make up for missed submissions. In order to qualify for these points, students must submit an “absence reporting form” which is linked on the Persistent Resources page, accessible from the Canvas home page for our course.

### Free Response Homework Assignments (4.5 % each—see special note about Week 14)

Most weeks, there is also an *independent homework* to submit (each student must submit their own assignment, and collaboration is **not** permitted.These must always be posted to Canvas by 11:59 *am* of the day in which they are due (typically the *Monday* before class).

In 50% of homeworks, assignments are "free response". Free response homeworks present students with data sets and open-ended questions like the in-class assignments. Students analyze a data set in accordance with specific questions, and answer broad open-ended questions according to a rubric. Assignments involve a combination of output generation, output summary, and general interpretation. Students are also expected to post the code file they used to generate their responses.

***As noted above, in Week 14 our “in class” work counts as homework (will be done without an answer key, and with reduced collaboration), and thus is worth 7.5%. This assignment will be due at the end of our last in-person class at 10:35 am. This final in-class homework cannot be missed/skipped, and is not available for the “missed class” credit. Late submissions of this final in-class homework will be permitted, under the late penalty schedule below***

### Cued Response Homework Assignments (1.5% each)

As with free response homeworks, these must always be posted to Canvas by 11:59 *am* of the day in which they are due (typically the *Monday* before class).

In the other 50% of weeks, homeworks are "cued response". Cued response homeworks are similar in structure to free response and in-class assignments, but students are required to post no output and write no responses. Instead, students will be give a variety of cued response options for each question, and they are to pick the best option.

### Examinations (16% and 15% respectively)

*Multiple choice examination* (16%) – This one-hour exam will be scheduled during the UF Exam period. The exam will consist of 25 multiple choice questions; The exam will be administered via Canvas on Mon May 1,3:00 pm – 4:00 pm in the “quizzes” tab.

The exam will cover all content in lecture/readings from Spring semester. Students are strongly urged to keep up with the optional multiple-choice self-assessments, as these are close in content and format to the actual exam questions. The exam requires a good internet connection; on-campus possibilities will be discussed in class closer to the final exam date.

*Open-ended examination* (15% of grade) – This will be an out-of-class examination, to be completed independently by the student. It will involve selecting the best analysis for a given data set/specific aims set; practice problems will be provided in Canvas throughout the semester. This will be distributed via Canvas **immediately after the last class, and will be due Mon May 1, 11:59 am (before noon!).**

### Grading

| Requirement | Due date | % of final grade (must sum to 100%) |
| --- | --- | --- |
| In-class assignment | Jan 17 | 1 |
| Lecture quiz | Jan 17 | 1 |
| Homework (CR) | Jan 23 | 1.5 |
| In-class assignment | Jan 24 | 1 |
| Lecture quiz | Jan 24 | 1 |
| Homework (FR) | Jan 30 | 4.5 |
| In-class assignment | Jan 31 | 1 |
| Lecture quiz | Jan 31 | 1 |
| Homework (CR) | Feb 6 | 1.5 |
| In-class assignment | Feb 7 | 1 |
| Lecture quiz | Feb 7 | 1 |
| Homework (FR) | Feb 13 | 4.5 |
| In-class assignment | Feb 14 | 1 |
| Lecture quiz | Feb 14 | 1 |
| Homework (CR) | Feb 20 | 1.5 |
| In-class assignment | Feb 21 | 1 |
| Lecture quiz | Feb 21 | 1 |
| Homework (FR) | Feb 27 | 4.5 |
| In-class assignment | Feb 28 | 1 |
| Lecture quiz | Feb 28 | 1 |
| Homework (CR) | Mar 6 | 1.5 |
| In-class assignment | Mar 7 | 1 |
| Lecture quiz | Mar 7 | 1 |
| Homework (FR) | Mar 20 | 4.5 |
| In-class assignment | Mar 21 | 1 |
| Lecture quiz | Mar 21 | 1 |
| Homework (CR) | Mar 27 | 1.5 |
| In-class assignment | Mar 28 | 1 |
| Lecture quiz | Mar 28 | 1 |
| Homework (FR) | Apr 3 | 4.5 |
| In-class assignment | Apr 4 | 1 |
| Lecture quiz | Apr 4 | 1 |
| Homework (CR) | Apr 10 | 1.5 |
| In-class assignment | Apr 11 | 1 |
| Lecture quiz | Apr 11 | 1 |
| Homework (FR) | Apr 17 | 4.5 |
| In-class assignment | Apr 18 | 1 |
| Lecture quiz | Apr 18 | 1 |
| Homework (CR) | Apr 24 | 1.5 |
| In-class homework (FR) | Apr 25 | 4.5 |
| Lecture quiz | Apr 25 | 1 |
| Analysis picking exam (one week, at home) | Due Mon May 1, 11:59 am (before noon!) | 15 |
| Final multiple choice exam | Mon May 1,3:00 pm – 4:00 pm | 16 |

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 54% 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 9 assignments, each one is worth 5.5% of the grade. If we end up having only 6 assignments, each one is worth 9% of grade. All assignments count for the exact same percentage of your grade, even if they are individually worth a different number of points.

Assignments will consist of multiple items. For free response assignments, 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.)

|  |  |
| --- | --- |
| Points | Explanation |
| 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:

* 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 Canvas.

### Point system used (i.e., how do course points translate into letter grades).

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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- | F |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Letter**  **Grade** | **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](http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx). **Please be aware that grades below B-minus are not acceptable grades for graduate students in CHP.**

### **Response/feedback policy**.

A member of the instruction team will respond to communications (emails, phone calls, communications through Canvas, anonymous comment form) within 24 hours during the work week, and within 48 hours during weekends or university closures. If closures are due to inclement weather or emergency, responses may be slower.

### **Exam Policy**.

Open-ended (“analysis picking”) exam will be distributed after the last class, and will be due on Mon May 1 11:59 am. Multiple choice exam will be online (Canvas), Monday May 1 3pm – 4 pm, and will consist of 25 multiple choice items covering content from the semester.

### Policy Related to Extra Credit

Occasionally, homework may include the opportunity for bonus points. These extra credit problems will be optional.

For [student evaluations of teaching](https://ufl.blueera.com/ufl/), all members of the class will be awarded one (1) bonus point if 80% of the enrolled class completes evaluations, and two (2) bonus points if 100% of the enrolled class completes evaluations.

### Policy Related to Make up Exams or Other Work

As a preface to all evaluative components of the course, we want to encourage you to please reach out to the instructional team if circumstances arise where you need to be absent or submit late work. We will try to balance professionalism with compassion so that we can make alternative plans, when necessary, to help you be successful in this course while prioritizing your emotional and physical well-being. If at all possible, please reach out before missing a class or other work.

It is my intent that all assignments will be turned in on time (see dates on course schedule below). Assignments cannot be made-up except in the case of extreme circumstances that meet the criteria of the University of Florida policy for an excused absence. Make-ups are only given for illnesses that require medical treatment, valid emergencies, and valid scheduling conflicts. With this said, as described above, please do not hesitate to reach out if special circumstances occur, and we will work with you as best as possible.

Missed in-class assignments cannot be made up, but students can miss up to two in-class assignments without losing points. *It is not possible to make up for missed in-class submissions. In order to qualify for these points, students must submit an “absence reporting form” which is linked on the Persistent Resources page, accessible from the Canvas home page for our course.*

For homework, sometimes you will have to submit work late. While this has a cost (point reductions as described below), you can think of this as a price you’re willing to pay to maximize your well being while still turning in work. We can accept work late for up to seven days, following the point reduction schedule below.

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

* While it is your responsibility to check that the correct assignment has been submitted to e-learning on time, we will let you know when we notice.
* If a personal concern (e.g., physical, social or mental health situation) arises, please reach out to the instructional team, who will discuss a plan that supports you and your participation in the course. Note, conference attendance or doctoral qualifying examinations or thesis/dissertation defenses are not generally excused reasons for lateness/missing work.
* The general lateness policy is that your final points will be reduced by 10% a day (starting immediately after the missed deadline). You may find this point cost a worthwhile compromise to help you manage your personal situation. If the instructional team notices unsubmitted/late work, we will check in with you to see if we can better understand the situation, and to explore how we can best help you to succeed and prioritize your psychological and/or physical/material needs.

|  |  |  |
| --- | --- | --- |
| Item | Late category | Penalty |
| 1 | 1 minute to 24 hours late | 10% of maximum deducted from achieved grade |
| 2 | 1 day + 1 minute late to 48 hours late | 20% of maximum deducted from achieved grade |
| 3 | 2 days + 1 minute late to 72 hours late | 30% of maximum deducted from achieved grade |
| 4 | 3 days + 1 minute late to 96 hours late | 40% of maximum deducted from achieved grade |
| 5 | 4 days + 1 minute late to 120 hours late | 50% of maximum deducted from achieved grade |
| 6 | 5 days + 1 minute late to 144 hours late | 60% of maximum deducted from achieved grade |
| 7 | 6 days + 1 minute late to 168 hours late | 70% of maximum deducted from achieved grade |
| 8 | 7 days + 1 minute late or longer | 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).

* We will reach out when we notice a wrong document has uploaded, but by then time may have elapsed.
* Please reach out to the instructional team with concerns.

Any requests for make-ups due to technical issues should be accompanied by the ticket number received from elearning when the problem was reported to them. The ticket number will document the time and date of the problem. Please e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

## 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, and changes to incomplete grades must be approved by the College and University.

## Policy Related to Required Class Attendance

Attendance in this online class is defined as participation in the virtual Zoom classroom on Tuesday mornings. It is the expectation of the faculty in Clinical and Health Psychology that students attend all classes. However, when absences must occur, please reach out for assistance if needed. There are weekly in-class assignment submissions, but students can miss two of these without penalty.

Please note all faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the [Registrar website](http://www.registrar.ufl.edu/catalogarchive/01-02-catalog/academic_regulations/academic_regulations_013_.htm) for additional details.

# Religious Observances Policy

We conduct this class in accordance with the University of Florida [Religious Observances policy](https://administrativememo.ufl.edu/2018/10/uf-religious-observances-policy-3/), which states (in part): "Students and faculty must work together to allow students the opportunity to observe the holy days of his or her faith. A student needs to inform the faculty member of the religious observances of his or her faith that will conflict with class attendance, with tests or examinations, or with other class activities prior to the class or occurrence of that test or activity. The faculty member is then obligated to accommodate that particular student’s religious observances. Because our students represent a myriad of cultures and many faiths, the University of Florida is not able to assure that scheduled academic activities do not conflict with the holy days of all religious groups. We, therefore, rely on individual students to make their need for an excused absence known in advance of the scheduled activities. For University of Florida Students, the following guidelines apply: Students, upon prior notification of their instructors, shall be excused from class or other scheduled academic activity to observe a religious holy day of their faith. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. Students shall not be penalized due to absence from class or other scheduled academic activity because of religious observances…A student who is to be excused from class for a religious observance is not required to provide a second party certification of the reason for the absence. Furthermore, a student who believes that he or she has been unreasonably denied an education benefit due to religious beliefs or practices may seek redress through the student grievance procedure. "

## Policy Related to Guests Attending Class

Only registered students are permitted to attend class. However, we recognize that students who are caretakers may face occasional unexpected challenges creating attendance barriers.  Therefore, by exception, a department chair or his or her designee (e.g., instructors) may grant a student permission to bring a guest(s) for a total of two class sessions per semester.  This is two sessions total across all courses.  No further extensions will be granted.  Please note that guests are **not** permitted to attend either cadaver or wet labs.  Students are responsible for course material regardless of attendance. For additional information, please review the Classroom Guests of Students policy in its entirety.  [Link to full policy](http://facstaff.phhp.ufl.edu/services/resourceguide/getstarted.htm).

# STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

## Inclusive Learning Environment

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida’s Non-Discrimination Policy, which reads, “The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act.” If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs [website](http://www.multicultural.ufl.edu).

### Instructor Diversity Statement

Consistent with the Inclusive Environment statement elsewhere in this syllabus, I embrace non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act. But non-discrimination is for me, personally, too passive a phrase. I celebrate, value, and welcome the diversity of backgrounds and experiences that we collectively bring to the classroom.

I approach life, and this class, as a White male who has been in university environments since 1983 (first as undergraduate, then graduate student, then postdoctoral fellow and faculty member). I bring an international, if Western, perspective. I was born in Canada (and lived there for my first 22 years) and identify as a German-Canadian (my parents were born in Germany). My graduate work was in rural Pennsylvania. I speak English, German, and some French. I lived in Berlin, Germany as a postdoctoral fellow from 1992-1995. Prior to coming to the University of Florida, I was on the faculty of Wayne State University in Detroit. Thus, I bring exposure to a variety of urban, suburban environments across three countries.

I have profound sensorineural hearing loss in both ears (and have since I was 18 months old). I was raised in a time and environment where deafness was deficit, and where compensating and mainstreaming was viewed as the sole pathway to success. I have come slowly to understanding that I am differently abled, and to realize the many ways in which I have compensated for hearing loss through my life. The global pandemic was a time of great eye-opening for me, as I realized how poorly I could hear in classroom and meeting settings. The Zoom-years have been transformative for me (with the ability to adjust digital audio, use automatic captions, and see faces close up to support lip reading).

My goal is to serve as an instructor and mentor who serves diverse students from historically excluded groups to achieve their goals in my classes and laboratory environment. I will continue to seek funding to support the training of doctoral students from historically excluded groups. In my role as Director of Graduate Programs in the Department of Clinical and Health Psychology, I will continue to strive to recruit, retain, and foster well being in students from diverse and under-represented groups. Moreover, I will strive to incorporate and increase consideration of diversity in my teaching materials and methods. I view it as my responsibility to support students from diverse backgrounds to find their voices in class, and to use my diverse background to foster a sensitive and welcoming environment that supports growth and achievement in students my laboratory and classroom environments.

## Expectations Regarding Course Behavior

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.

### Recommended statement from the Chief Diversity Officer

People learn best when they are encouraged to ask questions and express their diverse opinions on course content which may include images, texts, data, or theories from many fields. This is especially true in courses that deal with provocative or contemporary issues. UF offers many such courses, in which students encounter concepts of race, color, sex, and/or national origin. We teach these important issues because understanding them is essential for anyone who seeks to make economic, cultural, and societal contributions to today's complex world. With this in mind, we do not limit access to, or classroom discussion of, ideas and opinions-including those that some may find uncomfortable, unwelcome, disagreeable, or even offensive. In response to challenging material, students and instructors are encouraged to ask honest questions and thoughtfully engage one another's ideas. But hostility, disruptive and disrespectful behavior, and provocation for provocation's sake have no place in a classroom; reasonable people disagree reasonably. These guidelines can help instructors and students as they work together to fulfill the mission of the University of Florida, which includes the exploration of intellectual boundaries, the creation of new knowledge and the pursuit of new ideas.

## Communication Guidelines

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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 Canvas (“Discussion” link), and will be monitored by the entire instructional team. These questions will not be anonymous. If you need to post an anonymous question, there is a link for doing so in the Course Hub in Canvas

**Note #1**: You can receive notifications whenever the discussion board is updated. Simply hit the green bookmark next to \*each\* discussion topic

**Note #2:** In the interests of treating this class as a “mutually tended garden”, we’d ask you to prioritize posting discussion board questions rather than emailing individual questions:

1. your classmates can share in the insights by reading the discussion board
2. the instructional staff does not end up answering the same question multiple times.
3. you benefit from the possibility of receiving responses from any of the instructional members, rather than just the person you e-mailed.

For these reasons, we will tend to anonymize any emailed questions that seem to have wide utility, and post answers on the discussion board. 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.

Office Hours and Appointments*.* The TAs and Dr. Marsiske have office hours by appointment for extra help. 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.

In reviewing the above resources, students are asked to write down specific questions about the material that is causing confusion. If you have 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”.

## Academic Integrity

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. 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.” The Honor Code specifies a number of behaviors that are in violation of this code and the possible sanctions. [Click here to read the Honor Code](https://sccr.dso.ufl.edu/process/student-conduct-code/). Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

## Online Faculty Course Evaluation Process

***For*** [***student evaluations of teaching***](https://ufl.blueera.com/ufl/)***, all members of the class will be awarded one (1) bonus point if at least 80% of the enrolled class completes evaluations, and two (2) bonus points if 100% of the enrolled class completes evaluations.***

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via [https://ufl.bluera.com/ufl/](https://urldefense.proofpoint.com/v2/url?u=https-3A__ufl.bluera.com_ufl_&d=DwMFAg&c=sJ6xIWYx-zLMB3EPkvcnVg&r=y2HjEMjRMHJhfdvLrqJZlYczRsfp5e4TfQjHuc5rVHg&m=WXko6OK_Ha6T00ZVAsEaSh99qRXHOgMNFRywCoehRho&s=itVU46DDJjnIg4CW6efJOOLgPjdzsPvCghyfzJoFONs&e=). Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## Expectations regarding face-to-face meetings/classes, if they should occur

*We do not have formally scheduled in person instructional sessions, because the course is coded as "online". Or course, we meet synchronously every week. You are encourage to schedule all office hours or requests for extra help via Zoom. In the unlikely event of an in person class or meeting,*

* + - The instructor recommends that you wear approved face coverings during class and within buildings.
    - The instructor recommends that you maintain physical distancing (6 feet between individuals) or interact outdoors where possible.
    - If sanitizing supplies are available, please consider wiping down your desks prior to sitting down and at the end of the class.
    - If you are experiencing COVID-19 symptoms ([Click here for guidance from the CDC on symptoms of coronavirus](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html)), or any respiratory virus, the instructor recommends that you work remotely until symptoms have passed and/or you have obtained a negative test result. You may also consult the [UF COVID-19 information pages](https://coronavirus.ufhealth.org/) for the latest guidance.
      * Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. [Find more information in the university attendance policies](https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/).

## Class recording and privacy

We do not presently plan to record our synchronous class sessions. However, it is possible that at least one of our class sessions might be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. **The class will receive advance warning if recording is planned!** Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded.  If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded.  If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

# SUPPORT SERVICES

## Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, it is strongly recommended you register with the [Dean of Students Office](http://www.dso.ufl.edu) within the first week of class or as soon as you believe you might be eligible for accommodations. The Dean of Students Office will provide documentation of accommodations to you, which you must then give to me as the instructor of the course to receive accommodations. Please do this as soon as possible after you receive the letter. Students with disabilities should follow this procedure as early as possible in the semester. The College is committed to providing reasonable accommodations to assist students in their coursework.

## Campus Resources

### Health and Wellness

* *U Matter, We Care*: If you or someone you know is in distress, please contact [umatter@ufl.edu,](mailto:umatter@ufl.edu) 352-392-1575, or visit [U Matter, We Care website](https://umatter.ufl.edu/) to refer or report a concern and a team member will reach out to the student in distress.
* *Counseling and Wellness Center*: [Visit the Counseling and Wellness Center website](https://counseling.ufl.edu/) or call 352-392-1575 for information on crisis services as well as non-crisis services.
* *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](https://shcc.ufl.edu/).
* *University Police Department*: [Visit UF Police Department website](https://police.ufl.edu/) or call 352-392-1111 (or 9-1-1 for emergencies).
* *UF Health Shands Emergency Room / Trauma Center:* For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road,
* Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](https://ufhealth.org/emergency-room-trauma-center).

### Academic Resources

* *E-learning technical support*: Contact the [UF Computing Help Desk](http://helpdesk.ufl.edu/) at 352-392-4357 or via e-mail at [helpdesk@ufl.edu.](mailto:helpdesk@ufl.edu)
* [*Career Connections Center*](https://career.ufl.edu/): Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
* [*Library Support*](https://cms.uflib.ufl.edu/ask): Various ways to receive assistance with respect to using the libraries or finding resources.
* [*Teaching Center*](https://teachingcenter.ufl.edu/): Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.
* [*Writing Studio*](file:///C:\Users\marsiske\Downloads\writing.ufl.edu\writing-studio\)*:* 2215 Turlington Hall*,* 352-846-1138. Help brainstorming, formatting, and writing papers.
* *Student Complaints On-Campus*: [Visit the Student Honor Code and Student Conduct Code webpage for more information](https://sccr.dso.ufl.edu/policies/student-honor-%20code-student-conduct-code/).
* *On-Line Students Complaints*: [View the Distance Learning Student Complaint Process](https://distance.ufl.edu/getting-help/student-complaint-process/).

Please 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.

## Appendix

Week 01

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapter 09

Salkind, N.J. (2014). Statistics for people who (think they) hate statistics, 5th ed. London: Sage. Chapter 10 (Only the Lonely: The One-Sample z Test)

Salkind, N.J. (2014). Statistics for people who (think they) hate statistics, 5th ed. London: Sage. Chapter 11 (t(ea) for Two: Tests Between the Means of Different Groups)

Heiman, G. W. (2006). Basic statistics for the behavioral sciences (6th Ed.). City: Cengage. Chapter 15 (the two-sample between-subjects experiment and the independent samples t-test)

Heiman, G. W. (2006). Basic statistics for the behavioral sciences (6th Ed.). City: Cengage. Chapter 16 (the two-sample within-subjects experiment and the dependent samples t-test)

Cumming, G., & Fidler, F. (2009). Confidence intervals: Better answers to better questions. Zeitschrift fuer Psychologie/Journal of Psychology, 217(1), 15-26.

Week 02

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapter 10

Schweigert, W. A. (2011). Research methods in psychology: A handbook. Waveland Press. Chapter 5 (Introduction to Experimentation and the Between-Groups Design).

Week 03

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapter 12

Kazdin, A.E. (2003). Research design in clinical psychology (4th ed.). Needham Heights, MA: Allyn & Bacon, Chapter 7 (Control and comparison groups)

Kazdin, A.E. (2003). Research design in clinical psychology (4th ed.). Needham Heights, MA: Allyn & Bacon, Chapter 8 (Assessing the impact of experimental manipulation)

Week 04

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapter 13

Week 05

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapter 14

Schweigert, W. A. (2011). Research methods in psychology: A handbook. Waveland Press. Chapter 6 (The Within-Subjects Design)

Schweigert, W. A. (2011). Research methods in psychology: A handbook. Waveland Press. Chapter 7 (Factorial Designs)

Week 06

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapters 11 and 15

Tabachnick, B. G., and Fidell, L. S. (2013). Using Multivariate Statistics, 6th ed. Boston : Pearson. Chapter 8 (Analysis of covariance)

Meyers, L. S., Gamst, G., & Guarino, A. J. (2013). Applied Multivariate Research: Design and Interpretation (2nd ed.). London: Sage. Chapter 9A (MANOVA: Comparing two groups)

Meyers, L. S., Gamst, G., & Guarino, A. J. (2013). Applied Multivariate Research: Design and Interpretation (2nd ed.). London: Sage. Chapter 10A (MANOVA: Comparing three or more groups)

Meyers, L. S., Gamst, G., & Guarino, A. J. (2013). Applied Multivariate Research: Design and Interpretation (2nd ed.). London: Sage. Chapter 11A (MANOVA: Two-way factorial)

Week 07

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 interspersed through Chapters 9-14

Heiman, G. W. (2006). Basic statistics for the behavioral sciences (6th Ed.). City: Cengage. Chapter 21 (Chi square and other nonparametric statistical procedures)

Patten, M. L., & Bruce, R. R. (2000). Understanding research methods: An overview of the essentials. Topics 54-59 (Introduction to effect size, d; Interpretation of effect size d, Effect size and correlation r, Introduction to meta-analysis, Meta-analysis and effect size, Meta-analysis: strengths and weaknesses)

Rosnow, R. L., & Rosenthal, R. (2009). Effect sizes: Why, when, and how to use them. Zeitschrift fuer Psychologie/Journal of Psychology, 217(1), 6-14.

Week 08

Hadzi‐Pavlovic, D. (2009). Power and sample size: I. The success of others is a recipe for your failure. Acta Neuropsychiatrica, 21(4), 202-204.

Hadzi‐Pavlovic, D. (2007). Effect sizes I: differences between means. Acta Neuropsychiatrica, 19(5), 318-320.

Howell, D. C. (2006). Statistical methods for psychology. (6th edition). USA: Thomson Wadsworth , Chapter 8 (Power)

Gpower Site (for Program and Manual) (http://www.gpower.hhu.de/en.html)

Dennis, M. L., Lennox, R. D., & Foss, M. A. (1997). Practical power analysis for substance abuse health services research. In Bryant, K. J., Windle, M. E., & West, S. G. (Eds). The science of prevention: Methodological advances from alcohol and substance abuse research (pp. 367-404). Washington DC: American Psychological Association.

Murphy, K. (2002). Using power analysis to evaluate and improve research. In Rogelberg, Steven G. (Eds) Handbook of research methods in industrial and organizational psychology (pp 119-137) . New York: John Wiley & Sons.

Week 09

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapter 18

Howell, D. C. (2006). Statistical methods for psychology. (6th edition). USA: Thomson Wadsworth , Chapter 6 (Categorical data and chi square)

Rogers, J. L., Howard, K. I., & Vessey, J. T. (1993). Using significance tests to evaluate equivalence between two experimental groups. Psychological bulletin, 113(3), 553.

Barker, L. E., Luman, E. T., McCauley, M. M., & Chu, S. Y. (2002). Assessing equivalence: an alternative to the use of difference tests for measuring disparities in vaccination coverage. American Journal of Epidemiology, 156(11), 1056-1061.

Week 10

Heiman, G. W. (2006). Basic statistics for the behavioral sciences (6th Ed.). City: Cengage. Chapter 21 (Chi square and other nonparametric statistical procedures)

Wickens, T. D. (2014). Multiway contingency tables analysis for the social sciences. Psychology Press. Chapter 1 (Introduction)

Wickens, T. D. (2014). Multiway contingency tables analysis for the social sciences. Psychology Press. Chapter 2 (Two-way tables)

Week 11

Field, A., Miles, J., & Field, Z. (2012). Discovering Statistics Using R (First Edition). London: Sage. ISBN: 9781446289150 Chapter 8

Hadzi‐Pavlovic, D. (2008). Diagnostic tests: I. Basics. Acta Neuropsychiatrica, 20(3), 162-164.

Hadzi‐Pavlovic, D. (2008). Diagnostic tests: II. Comparing cut‐offs. Acta Neuropsychiatrica, 20(4), 220-222.

Hadzi‐Pavlovic, D. (2008). Diagnostic tests: III. Optimal cut‐offs. Acta Neuropsychiatrica, 20(5), 273-276.

Meirik (http://www.gfmer.ch/Books/Reproductive\_health/Cohort\_and\_case\_control\_studies.html)

Week 12

Afifi, A., May, S., & Clark, V. A. (2003). Computer-aided multivariate analysis. CRC Press. Chapter 12 (Logistic Regression)

Week 13

Norusis, Marija. SPSS 16.0 statistical procedures companion. Prentice Hall Press, 2008.Chapter 16 (Cluster Analysis)

Mackert, M., & Walker, L. O. (2011). Cluster analysis identifies subpopulations for health promotion campaign design. Public Health Nursing, 28(5), 451-457.

Clatworthy, J., Buick, D., Hankins, M., Weinman, J., & Horne, R. (2005). The use and reporting of cluster analysis in health psychology: A review. British journal of health psychology, 10(3), 329-358.

Shaw, S. Y., Shah, L., Jolly, A. M., & Wylie, J. L. (2008). Identifying heterogeneity among injection drug users: a cluster analysis approach. American Journal of Public Health, 98(8), 1430.

Week 14

Trochim’s Measurement Links

14.1. Measurement (http://www.socialresearchmethods.net/kb/measure.php)

14.1.1. Construct Validity (http://www.socialresearchmethods.net/kb/constval.php)

14.1.1.1. Idea of Construct Validity (http://www.socialresearchmethods.net/kb/considea.php)

14.1.1.2. Convergent and Discriminant Validity (http://www.socialresearchmethods.net/kb/convdisc.php)

14.1.1.3. Threats to Construct Validity (http://www.socialresearchmethods.net/kb/consthre.php)

14.1.1.4. The Nomological Network (http://www.socialresearchmethods.net/kb/nomonet.php)

14.1.1.5. The Multitrait-Mulitmethod Matrix (http://www.socialresearchmethods.net/kb/mtmmmat.php)

14.1.1.6. Pattern Matching for Construct Validity (http://www.socialresearchmethods.net/kb/pmconval.php)

14.1.2. Reliability (http://www.socialresearchmethods.net/kb/reliable.php)

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