Washington University in St. Louis
School of Medicine

Applied Health Behavior Research

Clinical Research Training Center
Career Development Awards • Postdoctoral Program • Predoctoral Programs

# Syllabus: AHBR551, Summer 2019 — Introduction to SPSS

## About the Coursemaster

**Contact Information:**
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Office Hours: Please contact me via email or phone; face-to-face meetings available by appointment.

**Welcome:** I look forward to working with everyone to develop and advance their understanding of statistical programming and how it can be an effective tool in applied health behavior research. My hope for this class is that you leave with having learned a number of tangible techniques, so that you may be able to apply it in your work and/or study.

**Coursemaster Biography:** I am a public health researcher who uses clinical practice skills to further advance the field of sexual health using public health theories and frameworks. To date, I have worked to integrate clinical expertise as a licensed social worker in community mental health settings and substance use treatment with the research design and methodology for analyzing, interpreting, and disseminating data across a myriad of settings and populations. By building on this foundation, I have focused on addressing gaps in research and clinical practices in the areas of HIV care, sexual and gender minority health, and its relationship to risk factors associated with mental and physical health outcomes.

**Teaching Philosophy:** I believe application of concepts through hands-on activities provide the best opportunity to learn new content, especially content that may fall out of scope from past experiences/learning objectives. I believe a collaborative classroom provides space for a safe scholastic environment and elevates students to perform to their utmost ability.

## About This Course

**Required Texts:** Pallant, J. (2016). *SPSS Survival Manual, 6th edition*. Open University Press.
ISBN 13: 9781760291952

**Class Location:** Farrell Learning Teaching Center, Room 602

**Other Course Materials:** Any additional readings or resources will be available on Canvas.

**Course Description:** Students will learn the purpose and benefits of using statistical software programs such as SPSS for managing and analyzing data. Students will learn the superior functional capability of using SPSS vs. Excel for collecting and analyzing data. Through in-class demonstrations and exercises, students will gain critical hands-on experience using various features of SPSS software including: database design, options for quantitative and qualitative variable formats, data entry, data importing and exporting features, output and graphing functions, and common statistical procedures (e.g., descriptive statistics, chi-square, t-test, ANOVA) and basic inferential analyses (e.g., bivariate linear and logistic regression) using both drop-down menu functions and syntax options. Students also will learn how to annotate and manipulate output including tables and figures and how to export or paste output into Word or PDF documents.

**Goals of the Course:** By the end of this course, participants will be able to:

- *Understand the main features of SPPS*
- *Execute the SPSS Graphic User Interface effectively*
- *Perform descriptive analyses with SPSS*
- *Perform common parametric and non-parametric tests*
- *Perform simple regressions and multivariate analyses*
- *Complete mini lab projects showing a culmination of learned techniques*

**Homework:** Students will need to prepare for class by having read the required readings. You will complete four mini lab projects demonstrating competency in the techniques learned during the short-course.

**Major Assignment Descriptions:**

In-Lab Projects: Four mini-projects will provide hands-on experience with quantitative data generation using methods discussed and read in class. These activities are designed to be completed based on in-class practice for each activity. Full descriptions of each activity will be provided prior to each assignment. If you do not finish the activity during class, you will be responsible for completing it on your own and submitting it within 1 week of the date it was assigned by 11:59PM (*i.e.* class on June 15, in-class activity not completed, due to the instructor by June 22).

Attendance, Participation, Professionalism:

- It is vitally important that our classroom environment promote the respectful exchange of ideas. This entails being sensitive to the views and beliefs expressed during discussions whether in class or online.
- Your success in this course will heavily depend on your ability to communicate, engage and participate in all course activities. Successful completion of this course requires that a student keep up with all assignments and prep work for the lab components.
- Students are expected to attend each class meeting and be punctual.
- Students with less than ideal attendance, participation and professionalism will have deductions in their final grade as a result.

**Technology Requirements:** The course will be held in a computer lab so students are not required to bring their own laptop. For out-of-class laptop use for any unfinished assignments, you are expected to have access to reliable internet access. If you have computer problems, it is your responsibility to address these or utilize the CRTC Computer Lab. Problems with your computer or other technology issues are not an excuse for delays in meeting expectations and missed deadlines for the course. If you have a problem, get help in solving it immediately. At a minimum, you will need the following software/hardware on your computer (if you so desire to use your own computer outside of class) to participate in this course:

1. IBM SPSS Statistics Software
2. Computer with an updated operating system (e.g. Windows, Mac, Linux)
3. Updated Internet browsers
4. Ability to navigate the Canvas Learning Management System (mycanvas.wustl.edu)
5. Adobe Reader or alternative PDF reader (free)

## Time Requirements

For face-to-face courses in the CRTC program it is expected that you will be in class approximately 15 hours for each credit of the course a week plus travel time (i.e. this is a 1 credit course so that is 1 hour a week for 15 weeks or more hours in fewer weeks). In addition, it is assumed you will be doing homework and reading assignments that may take double that time. You should anticipate your time commitment for this course to be at least 15-30 hours total.

It is expected that you be at both Saturday classes for its entirety (9am until 5pm). There will be a lunch break and other, shorter breaks during each day. In addition, it is assumed you will be doing homework and reading assignments outside of the classroom.

## Course Schedule (subject to modification)

| Dates | Topic | Readings Due | Assignments Due |
|---|---|---|---|
| **06/15/2019** | - Getting started with SPSS<br>- Tour of SPSS windows, menus, and dialogue boxes<br>- Open, save, and close SPSS data and output files<br>- Prepare a data entry codebook<br>- Create a SPSS data file<br>- Enter data into an SPSS data file<br>- Check a data file for errors<br>- Correct errors in the data file<br>- Obtain descriptive statistics<br>- Create a variety of graphs (histograms, bar graphs)<br>- Manipulating the data to form new variables (computing totals, collapsing categories)<br>- Sorting the data file | Pallant: Chapters 1-10 | In-lab projects (x2) |
| **06/22/2019** | - Choose appropriate statistical techniques to address specific research questions<br>- Perform a variety of statistical procedures and interpret the output<br>- Depending on the needs, statistical techniques include: chi-square, correlation, paired sample t-test, independent groups t-test, Mann Whitney U test, one-way ANOVA, binary logistic regression, binary linear regression, and others | Pallant: Chapters 11-14, 16-18 | In-lab projects (x2) |

## Assessment/Grading

**Summary of Course Assignment Point Values:**

| | |
|---|---|
| In-Lab Projects (4 x 20 pts) | 80 |
| Attendance, Participation, and Professionalism | 20 |
| | **100** |

**Grading Scale:** This course utilizes the standard CRTC grading scale. The grade value for each letter grade is as follows:

| Grades/sub-grades | Course Points | 4-point scale |
|---|---|---|
| A+ (98% to 100%) | 98-100 | 4.00 |
| A (93% to 97%) | 93-97 | 4.00 |
| A- (90% to 92%) | 90-92 | 3.7 |
| B+ (88% to 89%) | 88-89 | 3.3 |
| **B (83% to 87%) – minimum for Core courses** | **83-87** | **3.00** |
| B- (80% to 82%) | 80-82 | 2.7 |
| C+ (77% to 79%) | 78-79 | 2.3 |
| **C (73% to 77%) – minimum for Electives** | **73-77** | **2.00** |
| C- (70% to 72%) | 70-72 | 1.7 |

**Penalties for Late Work:** Late work will not be accepted for this class, as you should have ample time to complete the mini lab projects.

**Technology Usage During Class:** As we will be in a computer lab, in-class use of laptops and other mobile devices will not be necessary. You will have time to use these items on breaks and during lunch.

**Feedback and Grading Timeline:** All feedback and grading will be returned within 1 week or less.

## Technical Support

If you have any technical problems accessing MyCanvas please e-mail ahbr@email.wustl.edu. Note this mailbox is not monitored in the evening or on weekends. If you need immediate help after hours please submit a service request to https://wusm.service-now.com.

## AHBR Core Competencies for Master's Degree Candidates

The following AHBR competencies are met by this course.

| Core Thematic Areas | Competencies |
|---|---|
| 1) Describe and apply basic principles of **research and evaluation methodology** relevant to understanding and modifying health behaviors and health outcomes. | • Apply quantitative methods, e.g., behavioral surveys and biometrics, to understand health behaviors and health outcomes, and to design and evaluate intervention programs, including appropriate data collection and analysis techniques.<br>• Describe the basic principles of study design including interpretation of alternative hypotheses and threats to internal and external validity.<br>• Describe the differences among and appropriately apply the major types of evaluation (e.g., formative, outcome, and process).<br>• Understand the statistical assumptions behind different statistical methods.<br>• Conduct basic statistical analyses using common statistical methods and statistical analysis software packages. |

## Course Policies

Please refer to the AHBR Scholar Handbook for complete program policies and information.

**CRTC Academic Policy Guidelines:**
Guidelines regarding CRTC course registration and enrollment, grades, tuition obligation, and academic leave are consolidated in the CRTC Academic Policy Guidelines. Please take a moment to review this document.

**CRTC Guidelines for Academic and Non-Academic Transgressions:**
By registering for this course you have agreed to the terms of the CRTC Guidelines for Academic and Non-Academic Transgressions. If you have not already reviewed this policy, please be sure to before beginning any CRTC related coursework.

**Academic Integrity/Plagiarism:**

- Academic dishonesty is a serious offense that may lead to probation, suspension, or dismissal from the University. One form of academic dishonesty is plagiarism – the use of an author's ideas, statements, or approaches without crediting the source. Academic dishonesty also includes such acts as cheating by copying information from another student. **Plagiarism and cheating are not acceptable.**
- Academic dishonesty will be reported to the Office of the Registrar for possible action. The coursemaster will make an academic judgment about the student's grade on that work and in that course. The CRTC process regarding academic dishonesty is described in the CRTC Guidelines for Academic and Non-Academic Transgressions.

**Writing Assistance:**
For additional help on your writing, consult the expert staff of The Writing Center in Olin Library (first floor) on the Danforth Campus. It can be enormously helpful to ask someone outside a course to read your essays and to provide feedback on strength of argument, clarity, organization, etc.

**Accommodations based upon sexual assault:**
The University is committed to offering reasonable academic accommodations to students who are victims of sexual assault. Students are eligible for accommodation regardless of whether they seek criminal or disciplinary action. Depending on the specific nature of the allegation, such measures may include but are not limited to: implementation of a no-contact order, course/classroom assignment changes, and other academic support services and accommodations. If you need to request such accommodations, please direct your request to one of following resources: Dr. Karen Winters, MD, Director of Student Health Service; Dr. Gladys Smith, PhD, Sexual Violence Prevention Therapist and Licensed Psychologist, or Kim Webb, Director of the Relationship and Sexual Violence Prevention Center at the Danforth Campus. These are confidential resources; however, requests for accommodations will be shared with the appropriate University administration and faculty. The University will maintain confidential any accommodations or protective measures provided to an individual student so long as it does not impair the ability to provide such measures.

If a student comes to me to discuss or disclose an instance of sexual assault, sex discrimination, sexual harassment, dating violence, domestic violence or stalking, or if I otherwise observe or become aware of such an allegation, I will keep the information as private as I can, but as a faculty member of Washington University School of Medicine, I am required to immediately report it to an Office of Education Dean or directly to Ms. Jessica Kennedy, the University's Title IX Director. If you would like to speak directly with Ms. Kennedy, she can be reached at (314) 935-3118, or by visiting the Title IX office in Umrath Hall on Danforth Campus. Additionally, you can report incidents or complaints to the Office of Student Affairs or by contacting WUSM Protective Services 314-362-4357 or your local law enforcement agency.

You can also speak confidentially and learn more about available resources by contacting Dr. Gladys Smith, PhD, Sexual Violence Prevention Therapist and Licensed Psychologist at the Medical Campus, (314) 362-2404, or contacting the Relationship and Sexual Violence Prevention Center located on the 4th floor of Seigle Hall on Danforth Campus, (314) 935-3445.

For further Resources, see: wusmhealth.wustl.edu/students/victims-sexual-assault-abuse/resources-2/

**Bias Reporting:**
The University has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of bias, prejudice or discrimination against a student can report their experiences to the University's Bias Report and Support System (BRSS) team.

See: diversityinclusion.wustl.edu/brss/. To report mistreatment or offensive behavior in the MD program, please report via the following pathways:

- CANVAS (the Learning Management System) utilizing the direct link from the *Student Commons < Mistreatment, Offensive Behavior, and Bias Reporting*
- Directly contacting any of the following individuals:
    - Senior Associate Dean for Education
    - Associate Dean for Student Affairs
    - Associate Dean for Medical Student Education
    - Student Ombudsperson (as another confidential resource)

**Mental Health:**
Mental Health Services' professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression.
See: shs.wustl.edu/MentalHealth

**On the Medical Campus:**

**Office of the Associate Vice Chancellor for Diversity, Equity and Inclusion (DEI)**

**The DEI Training Team** designs, facilitates and leads diversity education programming for faculty, staff and students on a wide range of topics including: creating a climate of respect, the value of diversity and the role of biases in our day-to-day lives.
diversity.med.wustl.edu/training/

**The Office of Diversity Programs** promotes diversity among and prepares medical students to lead in a global society. A priority for the Office of Diversity Programs is to cultivate and foster a supportive campus climate for students of all backgrounds, cultures and identities.
mddiversity.wustl.edu/

**The Diversity and Inclusion Student Council** promotes an inclusive campus environment for all School of Medicine students.
sites.wustl.edu/disc/

**The Office for International Students and Scholars** embraces the university's mission of welcoming promising students from around the world.
[wumma.wustl.edu/](wumma.wustl.edu/)