

SPLH 660: RESEARCH METHODS IN SPEECH-LANGUAGE-HEARING

Spring 2019

Tuesdays & Thursdays 1:00 PM – 2:15 PM

DHDC (Dole) 2094-Lawrence

Instructor

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GENERAL COURSE INFORMATION

Course Description

Research Methods is about the methods used to conduct, describe, and evaluate science in communication disorders. Goals for learner outcomes include: (1) evaluation of research, including adequacy of research to address scientific and clinical problems; (2) reading, summarizing, and describing research through a literature review; (3) describing a hypothetical research study that addresses a specific question or hypothesis identified by the student; and (4) providing constructive peer reviews of research paper drafts.

Prerequisites: 9 credits of SPLH course work and ENGL 101 and ENGL 102 (or course meeting core skill in written communication).

Course Objectives

The foundational goal of this class is to gain skills for evidence-based practice, or the practice of integrating evidence from (1) high quality, systematic research, (2) clinical practice experience and expertise, and (3) patient preferences. This class is particularly focused on the first part of evidence—high quality, systematic research—because this piece of evidence alone requires a substantial foundational skill set. We will also begin building a clinical skill set in this course—one that allows you to evaluate other's and your own evidence on the effectiveness of your clinical practice. Although our focus in this course will be on gaining the skills for understanding and interpreting scientific research and evaluating effectiveness of practices in speech-language-hearing, this does not de-emphasize other areas of clinical expertise and patient preference—skills which will be gained later. By the end of this class, students enrolled in SPLH 660 should be able to:

1. Evaluate research, including:
 - Identifying the main components of the research process.
 - Identifying standards of ethical conduct in science and clinical practice.
 - Differentiating scientific from pseudoscientific approaches.
 - Defining and applying criteria for evaluating measurement and research design.
 - Differentiating characteristics of experimental and nonexperimental designs.
2. Summarize and describe research, including:
 - Presenting research ideas and studies in a clear and concise manner.
 - Communicating research to others including patients, parents, insurance companies, or other relevant stakeholders in written and oral communication.
 - Finding and synthesizing research in a literature review.
 - Applying basic methods for organizing and describing data.
 - Writing a research report.

3. Engage in clinical decision making, including:
 - Formulating specific and testable hypotheses.
 - Describing methods in sufficient detail to facilitate replication.
 - Gathering data to inform clinical decisions.
 - Designing studies to minimize threats to external and internal validity.
 - Determining the significance and importance of research results for clinical settings.
 - Following ethical practices.

Instructor's Philosophy

This course is built on the philosophy that this material is best learned through collaboration and practice. Therefore, the course consists of structured activities in which you must engage and communicate with peers, and similarly, requires your active engagement with the materials in order practice material to gain associated knowledge and skills. The course combines independent and collaborative activities that students are expected to complete outside and inside the classroom.

Outside of the classroom, you are expected to independently complete all readings and/or videos before coming to class. These readings and videos are intended to give you the background knowledge that you will then actively use in class (see below). You are also expected to independently complete all quizzes to assess your own understanding and knowledge of each topic. This course is built on the assumption that each previous topic is understood before introducing a new topic that builds on knowledge from previous topics. Finally, you are expected to independently complete your writing assignment. Although some class time is allotted to helping you learn skills related to the writing project, the bulk of your time working on this project will be completed outside of the classroom.

Inside the classroom, most classes are structured as follows:

- Announcements to keep you aware of relevant course deadlines and activities
- 1-2 mini presentations to provide an overview of related topics
- 1-2 in-class activities—some of these will be completed independently while others will be completed in small- or large-group formats
- A summary of key material for that class

You are expected to regularly attend class and to come prepared to each class having read/watched all materials and printed or prepared related materials for the in-class activities. The more actively you engage in class, the more you will learn.

By enrolling in this course, we have agreed to a contract. I am responsible for designing and implementing a course that engages you intellectually and for executing fair assessment procedures to test your knowledge of the course material. You are responsible for implementing your part of the agreement: attending class, completing readings on time, participating in class activities and discussions, completing assignments, and studying for exams. I pledge to do my part to engage you and give you the tools to make this class interesting, challenging, and thought-provoking. By your enrollment, you are promising to be an active participant and learner in the class.

COURSE MATERIALS

Required Textbooks

Any of the following editions may be used in this course:

- 8th edition: Patten, M.L. (2012). *Understanding Research Methods: An Overview of the Essentials, 9th edition*. Routledge, New York, NY.
- 9th edition: Patten, M.L. (2017). *Understanding Research Methods: An Overview of the Essentials, 9th edition*. Routledge, New York, NY.
- 10th edition: Patten, M.L. & Newhart, M. (2018). *Understanding Research Methods: An Overview of the Essentials, 10th edition*. Routledge, New York, NY.

The page numbers in the syllabus correspond to the 9th edition, but there is little variation between the editions so you can use any edition and match up the topics.

Offit, P. (2008). *Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure*. Columbia University Press, New York, NY.

In-Class Materials

Please come prepared to class with a writing utensil and paper. There may be in-class assignments that you will have the opportunity submit during class on paper for class participation points.

Cell Phone and Laptop Computer Policy: There will be activities in class that require use of smart phones/cell phones or a computer application. There will also be some in-class time devoted to literature searches that will require use of computer search engines. Outside of these activities, *please do not text or check Facebook or shop during class because these activities are very distracting to myself and other students*. In addition, these activities are negatively correlated with class performance.

Blackboard

Announcements, handouts, assignments, additional readings, and grades will all be posted on a Blackboard (Bb) site for this course. Go to courseware.ku.edu to find this course (SPLH 660). Please check Bb regularly for important announcements, materials, and so on. Please see the TA if you are not familiar with Bb.

Piazza Discussion Board

You should have received a welcome email from Piazza. In the event that you did not, please contact the instructor within the first 2 weeks of class to get access. You may access the discussion board at: piazza.com/ku/spring2019/splh660/home.

All content and project related questions should be posted on this discussion board. Piazza works like Wikipedia—anyone can contribute and collaboratively edit an answer. You can also see an instructors' answer or if a student answer is endorsed by the instructors. Questions may be posted with your name or anonymously (however, the instructor reserves the right to remove the privilege of anonymous posts at any time during the semester if it is abused). Course content is organized by topic—please post your question in the correct respective topic to help everyone find and answer questions (e.g., if you have a question about Topic 10, post it in that topic, not under another topic). This discussion board is an extension of our class and is expected to be respectful and collegial.

Peerceptiv Peer Reviewing System

Writing assignments will be submitted through the Peerceptiv website: <https://www.peerceptiv.com>. You will need the following information to sign up:

- Course Name: SPLH 660, Research Methods, Spring 2019
- Class Code: paper97
- *Note:* There is a one-time \$12.50 charge for accessing Peerceptiv, so please have your credit cards available when you sign up.

If you have any questions, a helpful website for Peerceptiv is: <https://peerceptiv.zendesk.com/hc/en-us/categories/115000458913-Students>.

COURSE REQUIREMENTS

Weekly Topic Quizzes

There will be 12 weekly quizzes available on Blackboard. The quizzes will be available and must be completed by 5p Friday for each week that there is a quiz. For example, the quiz for Week 1 (Classes 1 and 2) needs to be completed prior to 5:00 p.m. on Friday, January 25th. Each quiz serves as a review of that week's material to ensure that the

topics are understood before moving on to the next week's topics. The quizzes can be taken twice and the best score is entered. You will have up to 60 minutes to take each quiz. Quizzes should be completed *independently*.

Topic Student Peer Presentations (SPPs)

Each student with 1-2 peer partners will take turns presenting to their other peers on two (2) assigned topics. Each student has been randomly assigned partners and dates. If you have a conflict, the instructor must be made aware of this conflict at least 2 weeks in advance, and preferably in the first 2 weeks of the semester, to arrange for an alternative topic/date. Your grade for each presentation will be based on the rating of your partner peer, your peer audience, and the instructor's assessment. See Blackboard for assigned partners, topics/dates, instructions, and grading rubrics.

In-Class Discussions

There will be three (3) in-class discussions related to the book, *Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure* by Paul Offit. Students are responsible for reading the assigned pages and completing and submitting the discussion questions BEFORE class for each discussion. During each discussion, students are expected to come prepared to discuss their points related to each discussion question.

In-Class Activities

In-class activities are intended to support your learning of the material using a hands-on and collaborative approach. In-class activities will be completed regularly during scheduled class times. Some of these in-class activities will be completed independently while others will be completed in small group or large group settings. *Each student is expected to work collaboratively when instructed, but is responsible for completing and submitting their own work. All in-class activities are available before class, and in many cases, must be printed and brought to class.* Only those in-class activities submitted in class will be accepted for credit.

Exams

This course consists of two exams: an in-class group assignment midterm and an in-class cumulative final exam.

Writing Project

The writing project for SPLH 660 is a research paper consisting of a literature review and methods section on a topic related to speech, language, and hearing sciences. You will submit this paper in three parts over the course of the semester. Part 1 consists of a brief literature review on a topic of your interest. After submitting the paper, you will both complete and receive peer feedback on your submission. Part 2 consists of a revised literature review as well as a methods section for a potential study. Again, after submitting the paper, you will both complete and receive peer feedback on your submission. Your final revised paper, including a thoroughly revised literature review and methods sections, should be submitted for Part 3. See the detailed Writing Project guidelines for more information.

COURSE POLICIES

Course Correspondence

Please include the course identification, "SPLH 660," in the subject line of your email for a prompter reply. All questions regarding course content should be posted on the Piazza discussion board. All content-related questions emailed to the Instructor or TA will receive the following message, "This is a content-related question. Please check the discussion board to see if this question has already been answered, and if not, post this question to the appropriate topic/module." Remember, you get participation points for posting and answering questions on the discussion board! Questions or comments not related to the course content may be emailed to the instructors.

Attendance

Attendance is not required but is strongly encouraged. During class sessions, we will cover material and carry out learning activities that are not replicated in the textbook or readings, so regular attendance will significantly enhance your understanding of the course material. In addition, it will be difficult to earn a high grade with infrequent class attendance.

Verifiable Medical Crises: Students with a verifiable medical crisis for themselves, a relative, or friend may be excused from being present for scheduled exams. It is the responsibility of the student to initiate discussion with the instructor, prior to the exam if possible. The instructor and student shall come to a mutually agreeable method of making up the missed work.

Religious Observances: All students must contact the instructor within the first two weeks of the semester if a scheduled exam or project due date conflicts with a mandated religious observance. A make-up exam will be scheduled at a mutually acceptable time or alternative due date for a project will be determined.

Grades

Student Peer Presentations (SPPs)	SPP 1	5%	10%
	SPP 2	5%	
Autism False Prophet Discussions	AFP Discussion 1	5%	15%
	AFP Discussion 2	5%	
	AFP Discussion 3	5%	
Quizzes			7.5%
In-Class Activities			7.5%
Midterm (In-class Experiment)			10%
Writing Project	Writing Project, Part 1	10%	30%
	Writing Project, Part 2	10%	
	Writing Project, Final Paper	10%	
Final Group Project			10%
Final Cumulative Exam			10%
		TOTAL:	100%

At the end of the course, points for each component, as described above, are weighted and added. The following scale will be used to determine final grades:

- A 90% and above
- B 80-89.99%
- C 70-79.99%
- D 60-69.99%
- F 59.99% and below

How to calculate your grade at any point in the class: You can follow the instructions on this wiki to determine your current weighted grade, using the information provided in BB: <http://www.wikihow.com/Calculate-Weighted-Average>

Deadlines

Deadlines are firm. Grades will be reduced by 5% for each day the assignment is late, and some assignments will not be accepted late (Writing Project). All assignments are due at the time noted in the course schedule and relevant guidelines on the day they are due.

Students with Disabilities or Special Needs

Student Access Services in the Academic Achievement and Access Center (AAAC) coordinates academic accommodations and services for all eligible KU students with disabilities (<http://access.ku.edu/>). If you have a disability for which you wish to request accommodations and have not contacted the AAAC, please do so as soon as possible (in 22 Strong Hall, or at 785-864-4064, V/TTY). If you think you may have a disability, you should contact AAAC to acquire the proper documentation.

Diversity and Inclusive Practices

The University of Kansas supports an inclusive learning environment in which diversity and individual differences are understood, respected, and appreciated. We believe that all students benefit from training and experiences that will help them to learn, lead, and serve in an increasingly diverse society. All members of our campus community must accept the responsibility to demonstrate civility and respect for the dignity of others. Expressions or actions that disparage a person's or group's race, ethnicity, nationality, culture, gender, gender identity/ expression, religion, sexual orientation, age, veteran status, or disability are contrary to the mission of the University. We expect that KU students, faculty, and staff will promote an atmosphere of respect for all members of our KU community.

Additionally, diversity of thought is appreciated and encouraged, provided you can agree to disagree. It is the instructor's expectation that ALL students experience this classroom as a safe environment. It is likely you may not agree with everything that is said or discussed in the classroom. Courteous behavior and responses are expected at all times. When you disagree with someone, be sure that you make a distinction between criticizing an idea and criticizing the person.

Recording Class Periods

Course materials prepared by the instructors, together with the content of all lectures and class activities are the property of the instructors. Any recording of class periods without the consent of the instructor is prohibited. On request, the instructor will usually grant permission for students to audio record class periods, on the condition that these recordings are only used as a study aid by the individual making the recording. Unless explicit permission is obtained from the instructor, recordings of class sessions may not be modified and must not be 4 transferred or transmitted to any other person, whether or not that person is enrolled in the course.

Commercial Note-Taking

Pursuant to the University of Kansas' [Policy on Commercial Note-Taking Ventures](#), commercial note-taking is not permitted in SPLH 566/816. Lecture notes and course materials may be taken for personal use, for the purpose of mastering the course material, and may not be sold to any person or entity in any form. Any student engaged in or contributing to the commercial exchange of notes or course materials will be subject to discipline, including academic misconduct charges, in accordance with University policy. **Please note:** note-taking provided by a student volunteer for a student with a disability, as a reasonable accommodation under the ADA, is not the same as commercial note-taking and is not covered under this policy.

Academic Misconduct

Academic misconduct will not be tolerated in this class. An instructor may, with due notice to the student, treat as unsatisfactory any student work which is a product of academic misconduct. Cases of academic misconduct may result in any or all of the following penalties: reduction of grade, admonition, warning, censure, transcript citation, suspension, or expulsion. The following information about Academic Misconduct is discussed in Article II, Section 6 of the rules and regulations of the University Senate. *“Academic misconduct by a student shall include, but not be limited to, disruption of classes; threatening an instructor or fellow student in an academic setting; giving or receiving of unauthorized aid on examinations or in the preparation of notebooks, themes, reports or other assignments; knowingly misrepresenting the source of any academic work; unauthorized changing of grades; unauthorized use of University approvals or forging of signatures; falsification of research results; plagiarizing of another's work; violation of regulations or ethical codes for the treatment of human and animal subjects; or otherwise acting dishonestly in research.”*

It is **your** responsibility as a KU student to make sure you understand academic honesty and misconduct. The policy is described at this link: <https://documents.ku.edu/policies/governance/USRR.htm#art2sect6>.

The website of the KU Writing Center provides some excellent information and resources on how to avoid plagiarism. <http://www.writing.ku.edu/guides/index.shtml?1#plagiarism>. We will be asking you to familiarize yourself with these materials this semester.

Disruptive Behavior

The scope and content of the material included in this course are defined by the instructor in consultation with the responsible academic unit. While the orderly exchange of ideas, including questions and discussions prompted by lectures, discussion sessions and laboratories, is viewed as a normal part of the educational environment, the instructor has the right to limit the scope and duration of these interactions. Students who engage in disruptive behavior, including persistent refusal to observe boundaries defined by the instructor regarding inappropriate talking, discussions, and questions in the classroom or laboratory may be subject to discipline for non-academic misconduct for disruption of teaching or academic misconduct, as defined in the Code of Student Rights and Responsibilities (CSRR), Article 22, Section C, and the University Senate Rules and Regulations, Section 2.4.6. Article 22 of CSRR also defines potential sanctions for these types of infractions.

SPLH 660 TENTATIVE COURSE SCHEDULE*

*Schedule may change if the instructor determines that additional time is needed on any given topic. Always consult the course website for the current schedule of topics.

Week	Class	Date (Day)	Topic(s) Covered	Readings/Videos	Assignment(s) Due	In-Class Activities
1	1	1/22 (T)	Course Introduction	Syllabus Kamhi (2011-Prologue) (Bb)		Reading the Evidence
	2	1/24 (TH)	Evidence-based Practice in SPLH	Dollaghan (2007), Ch. 1 (Bb) ASHA EBP Tools Video	Course Entry Surveys (before class at 12:00p, Bb) Quiz 1 (classes 1-2)-Due 1/25 (5p)	Using the Tools for EBP in SPLH
2	3	1/29 (T)	The Scientific Method (Student Peer Presentation-SPP) Experimental vs. Nonexperimental Research (SPP)	Patten (9 th) pp. 3-4; Bordens & Abbott (2018), pp. 24-32 (Bb) Patten (9 th) pp. 5-10		What Can You Tell?
	4	1/31 (TH)	Variables in Experimental and Nonexperimental Studies (SPP)	Patten (9 th) pp. 11-14 Review Writing Project Guidelines	Quiz 2 (classes 3-4)-Due 2/1 (5p)	ID Variables Writing Project Topic Worksheet
3	5	2/5 (T)	Research Hypotheses (SPP) How to Read a Research Article, Part 1	Patten (9 th) pp. 15-18 Reading Research Video	Submit Writing Project Topic (11p, Bb)	Creating and Identifying Hypotheses
	6	2/7 (TH)	Operational Definitions (SPP) How to Read a Research Article, Part 2	Patten (9 th) pp. 17-18 Select 1 of 4 Research Articles and read it (Bb)	Quiz 3 (classes 5-6)-Due 2/8 (5p)	Jar of Constructs Reading Research Articles
4	7	2/12 (T)	Reviewing Research—Finding Good Articles	Patten (9 th) pp. 31-35, 175-178		Library Workshop- Meet in the Clark Instruction Center, Watson Library
	8	2/14 (TH)	Writing and Organizing Literature Reviews	Patten (9 th) pp. 35-40, 179-180	Quiz 4 (classes 7-8)-Due 2/15 (5p)	Writing Center Workshop
5	9	2/19 (T)	Autism's False Prophets (AFP) In-class Discussion 1	AFP pp. xi-82	AFP Discussion Questions 1 (submit online/Bb before class and bring them with you)	AFP Discussion 1
	10	2/21 (TH)	Survey Research (SPP)	Blessing Ch. 10 (Bb); Blood et al. (2010) (Bb)	Writing Project, Part 1 (11p, Peerceptiv)	Teacup Olympics
6	11	2/26 (T)	Qualitative Research (SPP) Peer Reviewing	Patten (9 th) pp. 19-22; Yorkston et al. (2001) Reviewing Documents (read all 3 sections)		Why teach?

	12	2/28 (TH)	Ethical Considerations in Research (SPP)	Patten (9 th) pp. 25-26; Ambrose & Yairi (2002) (Bb); ASHA Code of Ethics (Bb)	Quiz 5 (classes 10-12)-Due 3/1 (5p)	Knowing the Law	
7	13	3/5 (T)	Sampling Characteristics, Demographics, and Sample Size (SPP)	Patten (9 th) pp. 55-68	Peer Reviews, Part 1 (11p, Peerceptiv)	Luck of the Irish	
	14	3/7 (TH)	AFP Discussion 2	AFP pp. 83-164	AFP Discussion Questions 2 (submit online/Bb before class and bring them with you) Quiz 6 (class 13)-Due 3/8 (5p)	AFP Discussion 2	
8		3/12 (T)	NO CLASS-SPRING BREAK				
		3/14 (TH)	NO CLASS-SPRING BREAK				
9	15	3/19 (T)	Reliability (SPP)	Patten (9 th) pp. 83-90; Sigafos et al. (2003) (Bb)		TBD	
	16	3/21 (TH)	Validity (SPP) Overview In-Class Experiment	Patten (9 th) pp. 71-77; Lincoln et al. (1997) (Bb)	Back Reviews, Part 1 (11p, Peerceptiv) Quiz 7 (classes 15-16)-Due 3/22 (5p)	TBD	
10	M I D T E R M	3/26 (T)	Part 1: In-class Group Assignment on Conducting an Experiment (MIDTERM)			MIDTERM	
		3/28 (TH)	Part 2: In-class Group Assignment on Conducting an Experiment (MIDTERM)			MIDTERM	
11	17	4/2 (T)	Single Subject Designs, Part 1 (SPP) Revising Your Writing and Writing Methods	Engel & Schutt (2009), pp. 208-214, 217-225 (Foundations and Analyzing) Patten (9 th) pp. 181-186; Revising Content ; Revising Organization		TBD	
	18	4/4 (TH)	Single Subject Designs, Part 2 (SPP) Midterm Rehash	Engel & Schutt (2009), pp. 225-240 (Design Types) Cardon & Azuma (2011)	Quiz 8 (classes 17-18)-Due 14/5 (5p)	TBD	
12	19	4/9 (T)	Group Experimental Designs (SPP) Threats to Internal and External Validity (SPP)	Patten (9 th) pp. 99-100, 105-108 Patten (9 th) pp. 101-104, 109-110		TBD	
	20	4/11 (TH)	Understanding Statistics and the Null Hypothesis (SPP)	Patten (9 th) pp. 113-116	Quiz 9 (classes 19-20)-Due 4/12 (5p)	TBD	

			Scales of Measurement (SPP)	Patten (9 th) pp. 117-120		
13	21	4/16 (T)	Chi-square Tests (SPP)	Patten (9 th) pp. 121-124	Writing Project, Part 2 (11p, Peerceptiv)	TBD
			Shapes and Measures of Distributions (SPP)	Patten (9 th) pp. 125-132		
	22	4/18 (TH)	AFP Discussion 3	AFP pp. 165-247	AFP Discussion Questions 3 (submit online before class and bring them with you)	AFP Discussion 3
					Quiz 10 (class 21)-Due 4/17 (5p)	
14	23	4/23 (T)	T-tests (SPP)	Patten (9 th) pp. 135-136		TBD
			ANOVAs (SPP)	Patten (9 th) pp. 137-140 Bastian et al. (2014) (Bb)		
	24	4/25 (TH)	Measures of Association (Pearson R correlations) (SPP)	Patten (9 th) pp. 133-135; Tomblin et al. (2000) (Bb)	Peer Reviews, Part 2 (11p, Peerceptiv)	TBD
			Practical Significance and Effect Size (SPP)	Patten (9 th) pp. 141-150; Schuele & Justice (2006)	Quiz 11 (classes 23-24)-Due 4/26 (5p)	
15	25	4/30 (T)	Meta-analyses (SPP)	Patten (9 th) pp. 151-156; Pauls & Archibald (2016) (Bb)		TBD
	26	5/2 (TH)	Evaluating Research in Speech-Language Pathology and Audiology	Gillman & Gillman (2006) (Bb) Nippold (2011) (Bb)	Back Reviews, Part 2 (11p, Peerceptiv)	Group Project Day 1 Work Time
			Final Group Project Day 1		Quiz 12 (class 25)-Due 5/3 (5p)	
16	27	5/7 (T)	Building an Evidence Base in SPLH/Implementation Science	Kamhi (2011-Epilogue) (Bb); Olswang & Prelock (2015) (Bb)		Group Project Day 2 Work Time
			Final Group Project Day 2			
	28	5/9 (TH)	Final Group Presentations (Day 3)		Final Group Project due In-Class	Final Group Project Presentations
			Review for Final		Final Writing Project, Part 3 (11p, Peerceptiv)	
*** Thursday, May 16th, 1:30 PM – 4:00 PM: FINAL EXAM ***						