



Department of Speech Pathology and Audiology

SPPA 6750 Clinical Research Methodology

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Readings

† purchase at Book Marq
* on reserve at Raynor Library

- * Goldstein, H. (1990). Assessing clinical significance. In L.B. Olswang, C.K. Thompson, S.F. Warren, & N.J. Minghetti (Eds.), *Treatment Efficacy Research in Communication Disorders*. Rockville, MD: ASHA Foundation.
- † Meline, T. (2010). *A Research Primer for Communication Sciences and Disorders*. Boston: Pearson Education.



Online Resources

<http://academic.mu.edu/sppa/slong/sppa6750.htm>. The course webpage contains a copy of the course outline with links to files (pdf) containing all PowerPoint slides shown in class.



Knowledge And Skills Acquisition (KASA) Standards Met By This Course

Standard III-A. The applicant must demonstrate knowledge of the principles of Social/ Behavioral sciences.

Standard IV-G: The applicant for certification must complete a program of study that includes supervised clinical experiences sufficient in breadth and depth to achieve the following skills outcomes (in addition to clinical experiences, skills may be demonstrated through successful performance on academic course work and examinations, independent projects, or other appropriate alternative methods):

1. Intervention
 - a. Measure and evaluate clients'/patients' performance and progress.



Course Objectives

This course is intended to make you a more sophisticated consumer of research in communication disorders and related disciplines. To a lesser extent, it is intended to help you design and conduct your own research studies. The major topics to be addressed in the course are:

- *The roles of the researcher and the clinician in communication disorders.* How do these roles differ? How should research influence the beliefs and methods of the clinician?
- *Components of the scientific method.* What is a scientific hypothesis? How is one developed and tested?
- *Group and single-case experimental design.* How do these research methods differ? How does one decide which method to use?
- *Factors affecting validity of research.* How do we know that research can be trusted? What methodological standards should it meet?
- *Interpretation of research results.* How do researchers analyze their data? How are experimental outcomes expressed statistically? How are these statistics interpreted? How does one judge the clinical significance of research?
- *The research enterprise.* What drives individuals to conduct research? How is research funded? Who decides what research appears in which journals?
- *Oral and written presentation of research.* How should research be presented to an audience? What constitutes good scientific writing and how does it differ from other forms of writing?
- *Research tools.* What computer tools are available to researchers that help them locate references, store and retrieve those references in the preparation of research papers, record and analyze data, and communicate with colleagues?



Course Requirements, Grading, & Attendance

Two examinations. The midterm exam will be worth 30% of the course grade. The final exam will also be worth 30% of the course grade. The final exam will be comprehensive, not just the second half of the course.

Three projects. These are designed to give you some direct experience with the location of relevant information sources, the entry and statistical analysis of data, and the evaluation of published research or the planning of new research. In the first project you will identify references on a selected topic that are available through libraries and the Internet. In the second project you will enter data into a spreadsheet, calculate basic descriptive, correlational, and inferential statistics, and create graphical representations of the data. For the third project you will review critically a previously published paper and comment on the author's literature review, research design, data analysis, and interpretation of findings. The three projects are worth 10%, 10%, and 20% of the course grade, respectively.

All examinations and presentations will be graded on a 100–point scale. Final scores will be computed from the percentage weightings shown above and converted to letter grades as follows: A (93–100), AB (88–92), B (83–87), BC (78–82), C (73–77), CD (68–72), D (60–67), F (59 and lower).

Attendance at all class meetings is expected. Exams missed because of an excused absence must be taken within a week of your return to class. Attached to this syllabus is a listing of those events or activities that qualify for an excused absence. Exams missed for discretionary (non-excused) reasons must also be taken within a week of your return to class. A 10 point deduction will be applied to exams missed for discretionary reasons.

Formative Assessment is ongoing measurement during educational preparation for the purpose of improving student learning. The midterm examination, as well as all three projects, are this type of assessment.

Summative Assessment is comprehensive evaluation of learning outcomes at the culmination of educational preparation. The final examination is of this type.



Course Outline

Dates	Topics	Readings
1/13	Scientific method Types of research Reliability	Meline, ch. 1
MLK DAY 1/20/14		
1/27	Internal validity External validity	
2/3	Ethical principles Informed consent Privacy issues Conflicts of interest	Meline, ch. 2
2/10	Levels of measurement Descriptive statistics Graphing results	Meline, ch. 4
2/17	Sampling methods Group designs	Meline, ch. 5
2/24	Qualitative Designs	Meline, ch. 6
3/3	Single-case designs	Meline, ch. 7
	Midterm Exam (take-home)	
SPRING BREAK 3/9/14 TO 3/16/14		
3/17	Alternative designs	Meline, ch. 8
3/24	Hypothesis testing	Meline, ch. 9
3/31 4/7	Quantitative analysis: t-test, ANOVA, chi-square	Meline, ch. 10
4/14	Synthesizing research	Meline, ch. 11
4/21	Evaluating research Writing research	Meline, ch. 12, 13
4/28	Clinician-researcher relationship Clinical significance	Meline, ch. 3 Goldstein
5/5	5:45 – 7:45 pm Final Exam	

Definition of excused absence for SPPA exams**Acceptable anticipated absences:**

- The student is away from campus representing an official university function, e.g., participating in a professional meeting, as part of a judging team, or athletic team.
- Required court attendance as certified by the Clerk of Court.
- Religious observances when certified by a letter from the student's parent(s) or religious leader.
- Required military duty as certified by the student's commanding officer.

Acceptable emergency absences:

- Illness or injury when certified by an attending physician, dentist, or nurse. The certification should show the date service was provided to the student but should not describe the nature of that service.
- Death or serious illness in the immediate family (parents, step-parents, siblings, spouse, children, step-children, foster children, in-laws, sibling in-laws, grandparents, great grandparents, step-great grandparents, grandchildren, aunts, uncles, nieces, and nephews) when certified by a letter from the student's parent(s) or spouse.

Please note that the student is required to provide verification of the absence to the course instructor.

Missing exams for DISCRETIONARY reasons (e.g., weddings, vacations) is STRONGLY DISCOURAGED. Students who request a make-up examination for discretionary reasons may receive a grade penalty or be asked to fulfill an additional course requirement, at the discretion of the instructor. Examples of these penalties or requirements include:

- A grade reduction on the missed exam (e.g., 20% reduction in points).
- Providing assistance to the instructor (e.g., working 5 hours in the instructor's laboratory)

As part of your professional preparation, and as a courtesy to your faculty and fellow students, it is expected that you honor your academic commitments.

A student may appeal in writing to the Department Chair to obtain an excused absence for missing an exam due to circumstances other than those specified above.

We appreciate your cooperation with these policies.