PT 6117
Capstone Oral Defense
SCHEDULE & GUIDANCE FOR PREPARING
Spring 2026
Monday May 11th, 2026

NOTE: Rooms are reserved from eleven onward; <u>all students</u> should upload their presentations in their assigned room by 11h30pm.

May 11th				
CAPSTONE ADVISOR	**Second Faculty**	**Students**	**Time**	**Room**
Gurovich	Spencer	*Leo Perez*	Noon – 1:00	Study room?
Aoyagi	Bigelow	*Gary Carrasco* *Sabrina Arias* *Sarah Murillo* *Tania Castillo-Munoz*	Noon – 1:00	Mesa 126
Gutierrez	Manning	*Jorge Valenzuela* *Christopher Myrda*	Noon – 1:00	Small Conference Room
Johnson	Singleton	*Ariana Abascal* *Adriana Balcorta* *Nyah Chacon* *Yezleen Maldonado*	Noon – 1:00	Mesa 114
Torriani	Geed	*Natasha Adjei-Baah* *Stephanie Orrantia* *Braden Reid*	Noon – 1:00	Large conference room
Reyes	Bala	*Chuck Ezenwa* *Lexy Hernandez* *Kenah Garcia* *Gabe Gonzalez*	Noon – 1:00	Mesa 120
May 11th				
Aoyagi	Spencer	*Janely Lugo Martinez* *Kaitlyn Asato*	1:00 – 2:00	Mesa 126
Manning	Gutierrez	*Kailey Griffin* *Alexander Montoya*	1:00 – 2:00	Small conference room
Gurovich	Bigelow	*MelanieVillescas* *Gabriela Rosas*	1:00 – 2:00	Mesa 120

Torriani	Geed	*Patricia Camila Carballo* *Andres Almodovar* *Alejandro Toccoli* *Abraham Avalos*	1:00 – 2:00	Large conference room
Bala	Jimenez	*Jennifer Gonzalez* *Valerie Medina* *Sofia Hinojosa* *Mayte Perez*	1:00 – 2:00	Mesa 114
May 11th				
Geed	Reyes	*Jasmin Loya*	2:00 – 3:00	Small conference room
Gurovich	Johnson	*Arlene Ponce* *Zachary Johnson*	2:00 – 3:00	Large conference room

GUIDANCE FOR PREPARING:

In preparation for your Oral Defense, we are providing this overview of topics that we expect you to be prepared to answer questions about. You may be asked about research methods in general (see topics below). Additionally you may be asked research methods-related questions about your poster / manuscript and appraised articles specifically, and/or clinically-relevant related questions about your systematic review. In the case of the former, we would ask you something like "In Table 1 of Gomez et al, I noted that all the P-values were over >.05…what does this mean about the null hypothesis for differences between the experimental and control group?"…we would NOT ask you something like "In Table 1 of Gomez et al, what was the P-value for the 5MWT?"

Your EBP textbook should be an excellent resource for you to ensure that you can meet our expectations. Additionally remember that research methods are part of the licensing exam, and so preparing for this is preparing you for the NPTE.

- Discuss the reasons for the increasing emphasis on evidence in health care (or goals of EBP)
- Define evidence-based physical therapist practice
- Differentiate and apply Chapter 2 terms: bias, case report, clinical practice guidelines, cross-sectional study, effectiveness, efficacy, experimental design, longitudinal study, literature review, nonexperimental/observational design, peer review, prospective design, quasi-experimental design, randomized clinical trial/randomized controlled trial, retrospective design, single-system design, synopsis, systematic review
- Discuss the different forms of evidence
- Rank research designs based on bias control - or filtered vs unfiltered publications
- Explain Chapter 3 terms: Boolean operators, clinical practice guidelines, database, hits, keyword(s), measurement reliability, measurement validity, MeSH, primary sources, responsiveness, Search engine, search string, secondary sources
- Explain how to search for evidence about a clinical question
- Distinguish quantitative data from qualitative data

- Differentiate Chapter 4 (new) terms: null hypothesis, statistical hypothesis, research hypothesis
- Differentiate and apply Chapter 6 (new) terms: exclusion criteria, extraneous variable, inclusion criteria, masked/blinded, random assignment, random sample, sample, sampling error, subjects/participants, target population, Type I error, Type II error
- Differentiate between a study population and a sample
- Discuss the purposes of inclusion and exclusion criteria
- Discuss the role of sample size in the statistical analysis of a study's result
- Explain the relationship between statistical power and Type II error
- Discuss the uses of, and limitations to, descriptive statistics
- Differentiate and apply Chapter 7 (new) terms: ceiling effect, continuous variable, dependent variable, dichotomous variable, discrete variable, floor effect, independent variable, inter-rater reliability, intra-rater reliability, measurement error, measurement reliability, measurement validity, minimal detectable change (MDC), reproducibility (test-retest reliability), responsiveness, standard error of measurement, variables
- Recognize that examples of concurrent validity, construct validity, content validity, face validity, predictive validity are validity issues-expectations were to understand internal and external validity from a global standpoint. I told them they did not have to memorize these internal validity terms but just to know that these are internal controls
- Discuss the roles of independent, dependent, and extraneous variables
- Identify independent and dependent variables in a study
- Identify the number of levels of independent variables in a study
- Differentiate and apply Chapter 10 (new) terms: alpha level, significance level, confidence interval, data transformation, inferential statistics, interrater reliability, intra-rater reliability, nonparametric/parametric statistical tests, number needed to treat (NNT), odds ratio, p value, risk reduction, sensitivity, specificity
- Differentiate between parametric and nonparametric statistical tests
- Differentiate between tests of relationships vs tests of differences
- Interpret *p* values and confidence intervals
- Interpret information provided by select statistical tests covered in class
- Distinguish between statistical significance and clinical relevance
- Discuss statistical power and its relationship to adequate sample size
- Differentiate and apply Chapter 5 (new) terms: between-subjects design, bias, case-control design, case series, cohort, cohort design, meta-analysis, placebo, pre-test, post-test, systematic review
- Differentiate between quantitative and qualitative research designs and research questions
- Differentiate among experimental, quasi-experimental, and nonexperimental research designs
- Discuss the primary methods of control for extraneous influences
- Differentiate primary analyses from secondary analyses
- Differentiate narrative/literature reviews from systematic reviews
- Identify the relationship between systematic reviews and meta-analyses
- Explain effect size-absolute and standardized effect size

- Discuss the purpose/indications/limitations of selected common descriptive statistical tools
- Interpret information provided by common descriptive statistical tools
- Differentiate and apply Chapter 8 (new) terms: assignment/allocation, attrition, instrumentation, internal validity, external validity/generalizability, research validity, reflexivity, transferability, triangulation
- Discuss the concept of research validity
- Recognize examples of threats to research validity
- Discuss the general consequences of weak research validity in a quantitative study
- Suggest potential solutions to minimize the threats to research validity in a quantitative study
- Differentiate a systematic review from a meta-analysis
- Interpret and apply information provided by the following calculations: Sensitivity and specificity
- Evaluate p values and confidence intervals to determine the potential importance of reported findings in prognostic and intervention research studies
- Determine the role of the minimal clinically important difference in determining the potential usefulness of an intervention of interest.
- Apply the following concepts during the evaluation of systematic reviews:
    a. Effect size;
    b. Heterogeneity;
    c. Homogeneity;
    d. Meta-analysis;
    e. Publication bias;
    f. Relative risk;
    g. Selection bias
- Interpret forest plots and evaluate confidence intervals to determine the potential importance of reported findings in systematic reviews