

Preliminary Examination

Student:

Preliminary Examination Outline: PhD in Nursing Science

This document outlines the structure and content for the preliminary examination for PhD students in Nursing Science. The examination is designed to assess the student's comprehensive knowledge, critical thinking skills, and ability to synthesize information within the broader context of nursing science and their specific substantive area of study. The exam will consist of both a written and an oral component.

Integration of Substantive Area of Study

A core principle of this examination is the seamless integration of the student's chosen substantive area of study throughout all sections. Students are expected to demonstrate how foundational theories, research methodologies, and translation science principles apply directly to their specific research interests. This approach ensures that the examination is highly relevant to the student's doctoral work and future research trajectory.

Part 1: Written Examination

The written examination will consist of four sections, each focusing on a critical aspect of doctoral-level nursing science. Students will be expected to demonstrate depth of knowledge, critical analysis, and the ability to apply concepts to their substantive area.

Section A: Theoretical Foundations

Topical Area Description: This section assesses the student's understanding of diverse theoretical perspectives relevant to nursing science. It requires students to demonstrate knowledge of grand, mid-range, and practice theories, not limited to nursing, but extending to theories from other disciplines (e.g., sociology, psychology, public health, organizational science) that underpin their substantive area of research. Students must be able to critically analyze, compare, and contrast theories, and articulate their applicability to specific phenomena within their field.

Exemplar Questions:

1. Critically analyze two distinct theoretical frameworks (one nursing, one non-nursing) that are highly relevant to your substantive area of research (e.g., chronic disease self-management, health disparities in vulnerable populations, palliative care, health technology adoption). Discuss their ontological and epistemological assumptions, key concepts, and propositions. How do these theories complement or diverge in explaining

the phenomena of interest within your substantive area, and how would you integrate them to build a more comprehensive understanding?

2. Select a specific health outcome or patient population central to your substantive area. Apply a systems theory approach to conceptualize the multi-level factors (individual, family, community, policy, healthcare system) influencing this outcome/population. Discuss how this theoretical lens informs the identification of potential intervention points and research questions.
3. Discuss the role of theory development and testing in advancing nursing science. Using an example from your substantive area, describe how you would conceptually or empirically test a specific proposition derived from a chosen theory. What are the challenges in applying this theory in real-world clinical or community settings?

Section B: Research Methodology and Design

Topical Area Description: This section evaluates the student's mastery of research methodologies, including quantitative, qualitative, and mixed methods approaches. It requires an in-depth understanding of research design principles, sampling strategies, data collection techniques, measurement, data analysis methods, and ethical considerations. Students must demonstrate the ability to critically appraise research, justify methodological choices, and propose rigorous designs relevant to their substantive area.

Exemplar Questions:

1. You are designing a study within your substantive area to investigate a complex health phenomenon that has both measurable outcomes and deeply personal experiences. Propose a mixed-methods research design (e.g., explanatory sequential, convergent parallel). Justify your choice of design, detailing how the quantitative and qualitative components will be integrated at the design, data collection, analysis, and interpretation phases. Provide specific examples of data sources and analytical approaches for each component.
2. Critically evaluate the methodological strengths and limitations of two seminal studies within your substantive area. Focus on aspects such as sampling, measurement validity and reliability, internal and external validity (for quantitative), trustworthiness criteria (for qualitative), and ethical considerations. How might these limitations be addressed in future research, particularly in the context of your own proposed dissertation work?
3. Discuss the ethical challenges inherent in conducting research with vulnerable populations relevant to your substantive area (e.g., individuals with cognitive impairment, undocumented immigrants, children). Describe specific strategies you would employ to ensure participant autonomy, beneficence, and justice, going beyond standard IRB requirements. How would you address potential power imbalances between researcher and participant?

Section C: Substantive Area of Study

Topical Area Description: This section requires students to demonstrate profound expertise in their chosen substantive area. This includes a historical overview, current state of the science, identification of critical gaps in knowledge, key controversies or debates, and future directions for research and practice. Students must synthesize existing literature, identify conceptual and empirical challenges, and articulate their unique contribution to the field.

Exemplar Questions:

1. Provide a comprehensive overview of the current state of the science in your substantive area. Identify and critically discuss at least three significant gaps in the existing literature. For each gap, propose a specific research question that, if answered, would significantly advance knowledge and practice in your area.
2. Trace the historical development of research and practice within your substantive area. Identify key turning points, influential studies, and paradigm shifts. How have these historical developments shaped the current understanding and approaches to care or intervention in this area?
3. Identify a major controversy or unresolved debate within your substantive area (e.g., optimal intervention timing, effectiveness of a specific treatment approach, ethical dilemmas in care delivery). Present the different perspectives on this issue, supported by evidence. How would you design a study to contribute to resolving this controversy or advancing understanding?

Section D: Translation Science and Dissemination

Topical Area Description: This section focuses on the student's understanding of how research findings are translated into clinical practice, health policy, and public health initiatives. It requires knowledge of implementation science frameworks, strategies for knowledge dissemination, stakeholder engagement, and the challenges inherent in moving evidence from research to real-world impact. Students must demonstrate the ability to consider the broader implications of their research for health outcomes and healthcare systems.

Exemplar Questions:

1. Imagine you have completed a successful intervention study within your substantive area. Using a recognized implementation science framework (e.g., RE-AIM, CFIR), describe a comprehensive plan for translating your research findings into widespread clinical practice. Discuss potential facilitators and barriers to implementation and strategies to address them.
2. Discuss the various strategies for disseminating research findings to diverse audiences (e.g., clinicians, policymakers, patients, general public). For a key finding from your substantive area, outline a multi-pronged dissemination plan, tailoring your message and communication channels to at least three different stakeholder groups.
3. Analyze the role of nursing science in informing health policy related to your substantive area. Identify a specific policy issue and discuss how research evidence (including your

potential dissertation findings) could be used to advocate for policy change or inform policy development. What are the challenges and opportunities for nurses to influence policy effectively?

Part 2: Oral Examination

Purpose: The oral examination provides an opportunity for the student to defend their written responses, elaborate on complex concepts, engage in scholarly dialogue with the faculty committee, and articulate their vision for future research. It assesses the student's ability to think critically on their feet, synthesize information, and communicate their ideas effectively.

Potential Areas of Discussion and Exemplar Questions:

- **Defense of Written Exam:**
 - "Can you elaborate on your rationale for choosing [specific theory/methodology] in your response to Question X?"
 - "You mentioned [a specific point] in your written exam; how does that connect to [another concept/theory]?"
 - "Address any areas where the committee seeks clarification or deeper understanding from your written responses."
- **Deeper Dive into Substantive Area:**
 - "Given the current healthcare landscape, what is the most pressing issue in your substantive area, and how would your research address it?"
 - "How do issues of health equity and social determinants of health intersect with your substantive area, and how will your research account for these?"
 - "Discuss the interdisciplinary nature of your substantive area. What other disciplines are crucial for advancing knowledge in this field, and how would you collaborate with them?"
- **Future Research and Dissertation Plans:**
 - "How does your proposed dissertation research build upon the existing literature and address the identified gaps in your substantive area?"
 - "What are the most significant challenges you anticipate in conducting your dissertation research, and how do you plan to mitigate them?"
 - "Beyond your dissertation, what is your long-term research agenda in your substantive area? What impact do you hope to achieve?"
- **Ethical and Professional Considerations:**
 - "Discuss a significant ethical dilemma you might encounter in your research or practice within your substantive area, and how you would navigate it."
 - "How will your research contribute to the broader mission of nursing science and the improvement of health outcomes?"

Evaluation Criteria

The student's performance on both the written and oral components will be evaluated based on:

- **Depth and Breadth of Knowledge:** Comprehensive understanding of theoretical, methodological, and substantive content.
- **Critical Thinking and Analysis:** Ability to analyze, synthesize, and critically evaluate information.
- **Integration and Application:** Skill in connecting diverse concepts and applying them to their substantive area.
- **Scholarly Communication:** Clarity, coherence, and rigor in written and oral expression.
- **Originality and Innovation:** Ability to identify gaps, propose novel research questions, and articulate a unique research trajectory.

Possible Outcomes

Following the completion of both the written and oral components of the preliminary examination, the faculty committee will convene to evaluate the student's performance and determine one of the following outcomes:

- **Pass:** The student has demonstrated comprehensive knowledge, critical thinking, and scholarly communication skills across all areas of the examination, indicating readiness to proceed with dissertation research.
- **Pass with Revisions:** The student has demonstrated a generally strong understanding but requires further development in specific areas. This outcome will be accompanied by a clear outline of required revisions (e.g., re-writing a section of the written exam, addressing specific conceptual gaps in a memo). The student must satisfactorily complete these revisions within a specified timeframe (e.g., 4-6 weeks) to achieve a full "Pass." Failure to complete revisions satisfactorily may result in a "Fail."
- **Fail:** The student has not demonstrated the required level of comprehensive knowledge, critical thinking, or scholarly communication to proceed with dissertation research. This outcome typically results in dismissal from the PhD program. In rare circumstances, and at the discretion of the faculty committee, a student may be granted the opportunity to retake a portion or the entirety of the examination after a significant period of remediation, but this is not guaranteed.

This preliminary examination is designed to be a rigorous yet supportive process, preparing students for the challenges and rewards of independent doctoral research and a career as a nurse scientist.