

Comprehensive Examination reference guide

General information:

To pass the Comprehensive Exams you are required to write a research proposal, revise the proposal, and have the proposal approved by the COMPS committee.

Proposal Information:

Formatting:

Text in your attachments must follow these minimum requirements:

- **Font size:** Must be 11 points or larger. Smaller text in figures, graphs, diagrams, and charts is acceptable, if it is legible when the page is viewed at 100%.
- **Type density:** Must be no more than 15 characters per linear inch (including characters and spaces).
- **Line spacing:** Must be no more than six lines per vertical inch.

The following fonts are recommended.

Arial

Georgia Helvetica

Palatino Linotype

Sections and Page Limitations:

- Page 1: Title and Narrative: Three sentences summarizing your proposal to a lay audience.
- Page 2: Specific Aims: State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will have on the research field(s) involved. List succinctly the specific objectives of the research proposed (e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop new technology).
- Pages 3-8 (Figures and Tables are inclusive in the 6-page limit):

Significance:

- Explain the importance of the problem or critical barrier to progress that the proposed project addresses.
- Describe the strengths and weaknesses in the rigor of the prior research (both published and unpublished) that serves as the key support for the proposed project.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

Approach:

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Describe plans to address weaknesses in the rigor of the prior research that serves as the key support for the proposed project. Describe the experimental design and methods proposed and how they will achieve robust and unbiased results. Include how the data will be collected, analyzed, and interpreted. Resources and tools for rigorous experimental design can be found at the Enhancing Reproducibility through Rigor and Transparency [website](#).
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- Explain how relevant biological variables, such as sex and genetic background, are factored into research designs and analyses for studies in vertebrate animals and humans. For example, strong justification from the scientific literature, preliminary data, or other relevant considerations, must be provided for applications proposing to study only one sex. Refer to [NIH Guide Notice on Sex as a Biological Variable in NIH-funded Research](#) for additional information.
- Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised. If applicable, a full discussion on the use of select agents should appear in the Select Agent Research attachment below

Preliminary Data (Optional, included in 6-page limit):

- Include information on preliminary studies (including data collected by others in the lab), if any. Discuss the preliminary studies, data, and/or experience pertinent to this application.

References (not included in page limits):

- Provide literature citations at the end of the research proposal. Each citation must include names of all authors, titles, book or journal, volume number, page numbers and year of publication. (e.g. like this: *Buvoli, M., Buvoli, A. & Leinwand, L. A. Effects of pathogenic proline mutations on myosin assembly. J. Mol. Biol.* **415**, 807–818 (2012))

Writing:

Your thesis advisor is not allowed to read the research proposal. However, you are welcome to discuss your aims in general without experimental details with your advisor as the COMPS proposal should set the framework for your graduate thesis work.

Your writing class Professors are not permitted to comment or edit your COMPS proposals until your oral exam is completed. The class is designed to aid you and prepare you for writing a grant to support your graduate research and once completed you have hopefully learned from the course. The expectation is that you apply the knowledge you learned to writing COMPS proposals. Our hope is that your COMPS proposals can be modified to submit as a grant to support your graduate research.

Review

Three members of the COMPS committee will review your proposal, two primary and one reader/tertiary reviewer. The reviewers will provide comments to guide revising your proposals.

Oral Examination Information:

- The oral exams will be held in person. Exams schedules will be provided to the exam committee and student the week prior to oral exams (latest).
- Exams will be scheduled for a total of 2 h with some time set aside for the examiners to discuss the exam once completed. Expect most exams to last approximately 1.5 h.
- Exams are scheduled for the dates indicated at the top of the document. You will be informed of your exam committee by one week prior to the examination but you can expect one of the readers to be present at your exam.
- You are allowed to select one faculty member at large to attend your exam. These requests must be submitted to the COMPS committee chair.