

Comprehensive/Doctoral Exam Evaluation Form

Learning Outcome	Indicators	Level of Achievement 1=low; 5=high
Acquire expert knowledge of biological, chemical, and analytical processes related to pharmaceutical sciences. Master a field of scholarship related to a specific research topic.	<p>Student demonstrates mastery of skills necessary to conduct a thorough literature review.</p> <ul style="list-style-type: none"> Familiarity with information retrieval resources (computer literacy, database searching, use of internet, library resources) Ability to conduct an effective literature search. Ability to identify and analyze major contributions to the field. <p>In any written work:</p> <ul style="list-style-type: none"> Major contributors to the field are included in the bibliography Landmark papers are identified and are cited in the appropriate context Background section conveys understanding of major contributions, the questions that have been addressed, and how these contributions have resulted in the current status of the field <p>Student demonstrates knowledge and understanding of the topic that is appropriate for their experience and level of education:</p> <ul style="list-style-type: none"> Major contributors to the field are identified along with their contributions. Student demonstrates knowledge and understanding of recent advances in the field, as well as who contributed what work and why it was important. Student is able to explain the evolution of thinking in the field in a way that is clear and understandable to scientists not familiar with the work. 	<p>1 2 3 4 5 NA <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
Meets or Exceeds the Standard <input type="checkbox"/>	Partially Meets the Standard <input type="checkbox"/>	Does Not Meet the Standard <input type="checkbox"/>

<p>Use the scientific method to generate, analyze, and interpret scientific data relevant to the identification, analysis, and use of therapeutic agents.</p> <ul style="list-style-type: none"> Generate mechanistic hypotheses based on prior evidence Derive specific predictions that are hypothesis-driven Plan detailed experimental procedures that test specific predictions Gather data via experimentation Appropriately analyze and interpret data 	<p>Student demonstrates the ability to:</p> <p>Identify an important research question:</p> <ul style="list-style-type: none"> Significant research issues and aims are identified in relation to an appropriate research context and an appropriate body of theory and knowledge The student has derived from the aforementioned issues a set of scholarly questions. <p>Articulate a mechanistic hypothesis and an approach for testing the hypothesis</p> <ul style="list-style-type: none"> Hypothesis is clearly stated and asks a 'how' or 'why' question. Predictions follow logically from the hypothesis and are testable. <p>Design a detailed experimental plan which:</p> <ul style="list-style-type: none"> Tests specific predictions Demonstrates appropriate knowledge and use of the latest or the most appropriate research methodologies and analytical techniques Is likely to produce/has produced definitive, interpretable results <p>Understand and appropriately use statistical methods to analyze and evaluate data</p> <p>Generate interpretations and conclusions that are justified by experimental data:</p> <ul style="list-style-type: none"> Results are based on a well-crafted experimental plan and rigorous scientific methods. Interpretations and conclusions are justified and follow logically from the data. Analysis is thorough and unbiased (all results are considered, alternate interpretations are considered). 	<p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
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