Example Questions for PhD Qualifying Exam
Thermal/Fluid Systems Area
Walker Department of Mechanical Engineering
The University of Texas at Austin

Demonstration of Required Background Knowledge

- What motivates this research? Why is the research topic of significance?

- Are there any existing approaches or techniques similar to this one?

Understanding of Research Methods Utilized

- What are the underlying assumptions of this research? Are they valid, and under what circumstances might they be invalid?

- Explanation/clarification of basic concepts

- What is the logical framework of this research?

- How does this research compare with other methodologies, and what are the advantages and disadvantages of each approach?

Application of Core Knowledge to the Interpretation of Data and Models

- What are the most important findings of this research?

- What are the broader implications of these findings?

- How do these results advance the current state of the field?

Analysis of Future Directions in the Field

- How does this work relate to your own research efforts?

- Are there significant issues or gaps that have not been addressed in this research? What potential solutions could address these challenges?

- In what ways do you foresee your own contributions impacting this field of research?

- What are other research topics/questions that this method would be suitable for?