UNIVERSITY OF ARKANSAS

STUDENT: _____ DATE OF EXAM: _____

MATRICULATION SEMESTER/YEAR: _____

PROGRAM AND MILESTONE: **Ph.D. CANDIDACY EXAM**

CRITERION	EXCEPTIONAL		SATISFACTORY		REMEDIAL
1. Demonstrates potential for achieving a <u>breadth & depth</u> and <u>integration</u> of <u>advanced biological</u> and <u>engineering</u> knowledge at the <u>graduate level</u> towards solving BMEG problems	• Demonstrates knowledge of biological and engineering principles without prompting • Consistently able to integrate engineering and biological knowledge to provide insight in a biomedical system • Able to use new material to solve a problem on his/her feet		• Explains biological and engineering principles but with some prompting • Demonstrates potential that student can gain insight into a biological problem using engineering principles		• Fails to articulate simple concepts in cell/tissue or physiology or engineering • Unable to explain a biological system at its functional level or solve basic engineering problems • Does not demonstrate any scope/potential for achieving this criteria
	❏ 5 - Exceptional	❏ 4 – Very Good	❏ 3 - Satisfactory	❏ 2 – Needs improvement	❏ 1 - Remedial
2. Clearly states research problem within the <u>context of literature</u> and <u>current challenges</u> in field of study Demonstrates <u>value of research</u> in advancing knowledge in field of study	• Formulates a concise and clear research problem • Efficiently places his/her work in larger contexts, typically integrates knowledge from multiple sources toward his/her own approach & the field at large		• Formulates research problem with some prompting • Shows some ability to place his/her work in a larger context; occasionally able to integrate knowledge from other sources toward own work or field at large		• Unable to form a clear research problem • Unable to place body of work into the big picture; difficulty integrating knowledge from multiple sources toward his/her own work or the field at large
	❏ 5 - Exceptional	❏ 4 – Very Good	❏ 3 - Satisfactory	❏ 2 – Needs improvement	❏ 1 - Remedial
3. Provides <u>sound and appropriate experimental approach</u> for analyzing/interpreting research results Has sufficient <u>preliminary data</u> to support experimental approach	• Experimental approaches are rationally designed toward addressing hypotheses based on preliminary data • Identifies errors & limitations [quantitative evidence for errors – e.g. power analysis] • Able to describe approaches to interpret results objectively, consistently differentiates objective interpretation from conjecture & speculation		• Reasonable experimental approaches based on preliminary data • Mostly able to recognize errors & limitations • Needs some assistance in making objective interpretations of data; occasionally recognizes conjecture and speculation		• Inability to formulate research problem/ lack of preliminary data • Unfocused responses • Cannot detect his/her study's limitations and errors • Makes vague statements regarding analysis approaches with no clear tie to question • Unable to defend statements
	❏ 5 - Exceptional	❏ 4 – Very Good	❏ 3 - Satisfactory	❏ 2 – Needs improvement	❏ 1 - Remedial

4. Effectively and efficiently <u>communicates</u> research proposal in <u>written</u> and <u>oral</u> forms	• Develops a chain of logic that is transparent & easy to follow • Offers relevant, targeted information • Engages committee in the clarification process • Able to restate question in own words • Easily uses technical terminology and concepts to make points		• Offers a chain of logic but it is not particularly transparent or easy to follow • Offers mostly targeted, relevant information but shows potential for improvement • Is aware of technical terminology but has difficulty connecting it to explanations		• Rambles and sidesteps the question • Unable to make list of clear goals and questions • Responds to different question than asked
	❑ 5 - Exceptional	❑ 4 – Very Good	❑ 3 - Satisfactory	❑ 2 – Needs improvement	❑ 1 - Remedial
Comments and recommendations for future actions	* A minimum score of ≥3 in all categories required for pass * A score of 1 in any category is an automatic fail				
Final Outcome	❑ Pass		❑ Pass (with contingency) * see recommendations for future actions		❑ Fail

Advisory/Dissertation Committee

_____   _____

Type or print name (Chair)   *Signature (Chair)*   *Date*

_____   _____

Type or print name   *Signature*   *Date*

_____   _____

Type or print name   *Signature*   *Date*

_____   _____

Type or print name   *Signature*   *Date*

Graduate Coordinator/Department Head

_____   _____

Type or print name   *Signature*   *Date*