Defense of Dissertation Results (See Article 10.2.2 of the Graduate School Policy Handbook)

Submit to Graduate School N204



THE GRADUATE SCHOOL OF **BIOMEDICAL SCIENCES**

| Student Name | e: | BCM ID#: | | |
|---------------------|--|---|------------------|-------------------------------|
| Graduate Pro | gram: | Are you also in the MD/PhD Program? | YES | NO |
| Completion | of all requirements for the Ph.D. deg | gree occurs with submission of final | (signed) dissert | ation. |
| Date | of Exam: | Exam Results: | | |
| | | | Pass or Fail | |
| | Printed Name | Signature | Date | INITIAL if present at Defense |
| Chairperson | | | | |
| Committee Member | | | | |
| | | | | |
| Program Director | | | | |
| Dean of GSBS | | | | |
| ORA | L RUBRIC TO THE GRADUATE SCH | EFENSE-WRITTEN EVALUATION RUDOL OFFICE IMMEDIATELY FOLLOW | ING THE EXAM | l. |
| final approval, inc | licate directly below or on attached p | pages: | must be correct | |
| | | | | |
| | | | | |
| | | | | |

Defense Written Rubrics

(attach to defense results form)

| Criterion | Unacceptable = 1 point | Acceptable = 2 points | Very Good = 3 points | Outstanding = 4 points | Score |
|--|--|---|--|---|-------|
| Knowledge of fundamental concepts | Fails to display general knowledge of biomedical concepts Lacks a good understanding of basic concepts, processes or conventions of the subjectmatter | Demonstrates basic, general knowledge of fundamental biomedical concepts Knows the subject matter adequately, but is not critical of it | Demonstrates an in-depth understanding of biomedical concepts Shows understanding and mastery of the subject matter | Exemplifies an in-depth and abstract knowledge of foundational biomedical concepts, and can discuss implications to related fields of inquiry Exhibits command and authority over subject matter | |
| Ability to critically evaluate research literature | Demonstrate knowledge of factual material limited to a level appropriate for an undergraduate student Fails to identify relevant literature in the field of inquiry | Demonstrates an awareness of the research literature in the field of inquiry Identifies some unanswered questions/gaps in the literature | Understands and can integrate the current research literature in the field of inquiry Successfully identifies and illustrates the importance of unanswered questions/gaps in the literature | Demonstrates a command and deep understanding of the current research literature in the field Identifies unanswered questions/gaps in the literature and can relate these to more abstract or inter-related questions/theories beyond the immediate topic | |
| Research design and data analysis | Uses incorrect, inappropriate or outdated methodology Data analysis is inappropriate or confused Identifies no weaknesses in interpretation | Uses limited number of correct methodological approaches Data analysis is acceptable, but fails to explore all possibilities and misses connections Identifies no weaknesses in interpretation | Uses multiple correct methodological approaches Data analysis is solid but misses opportunities to completed explore interesting issues or connections Identifies some weaknesses in data interpretation | Employs multiple and creative methodological approaches Analysis is comprehensive, complete, sophisticated and convincing Identifies most/all weaknesses in data interpretation | |
| Ability to draw conclusions | Little discussion of research findings Display poor grasp of material Conclusion/summary not supported by findings | Discussion is present but lacking depth and/or some key concepts Conclusion/summary not entirely supported by findings | Discussion is sufficient with few errors, but greater integration with past research is needed Conclusions/summary based on outcomes and appropriate Includes some recommendations | Discussion is well-constructed, accurate and engaging Conclusions/summary and recommendations are appropriate and clearly based on outcomes | |
| Rigor & Reproducibility | Assessment of prior research lacks rigor Potential biases & biological variables were not considered in research design No authentication of biological or chemical resources | Identifies major weaknesses in rigor of prior research Potential biases andbiological variables were superficially addressed Some authentication of research resources | Accounts for rigor deficiencies of prior work in own research Potential biases and biological variables were most addressed Key biological/chemical resources authenticated | Demonstrates in-depth understanding of rigor of prior research Sophisticated research design and analysis fully addressed potential biases and biological variables All resources authenticated in timely manner | |
| Writing Skills | Writing does not effectively communicate message Numerous grammatical and/or spelling errors Organization is poor Quality of figures and tables is poor Citations are missing or inappropriate | Writing is weak, but essential elements are present Some grammatical and/or spelling errors present Organization is adequate Figures and tables are complete and convey information effectively Citations are appropriate | Writing is adequate Few to no grammatical or spelling errors Organization is generally logical but with some minor gaps Presentation of figures and tables enhances writing effectiveness | spelling are consistently followed Organization is excellent with smooth transitions | |
| | | | | TOTAL SCORE | |

| Required Approvals | | |
|---------------------------|-----------|------|
| Major Advisor | | · |
| • | Signature | Date |
| Graduate Program Director | | |
| · | Signature | Date |

Defense Oral Rubrics

(attach to defense results form)

| Student Name: _ | |
|-----------------|--|
| | |

| Criterion | Unacceptable = 1 point | Acceptable = 2 points | Very Good = 3 points | Outstanding = 4 points | Sco |
|---|---|---|--|---|-----|
| Background scientific knowledge | Displays general knowledge of biomedical sciences appropriate for a baccalaureate student | Demonstrates basic, general knowledge of biomedical sciences, consistent with graduate level training | Demonstrates in-depth understanding of biomedical sciences and can apply them to their field of study | Demonstrates in-depth understanding of fundamental biomedical sciences, related research literature, and implications | |
| | | | | to closely related field of study | |
| Discipline- specific knowledge | Knowledge of bioscience related to the student's research area fails to adequately incorporate current research literature | Displays an awareness of the literature in the area of research | Exhibits a command of the literature related to area of research | Displays evident of critical assessment and synthesis of the research literature yielding enhanced knowledge or bioscience | |
| | | | | 9 | |
| | Reads material from slides Not comfortable with topic/presentation; appears | Relies too much on slides during presentation Somewhat comfortable with the topic/presentation | Uses slides as a guide Is easily understandable Comfortable with | Using slides as a guide, give detailed explanations that are easily understandable Keeps appropriate eye contact | |
| unpracticed Presentation/slides are poorly prepared and/or missing key information | on/slides are poorly and/or missing key n • Presentation is adequately paced • Slides are appropriately paced | topic/presentation; establishes eye contact with audience Overall presentation is effectively organized | Keeps appropriate eye contact withaudience Effective speaking style Presentation is well organized | | |
| Oral Presentation skills | Presentation is unfocused Visual materials poorly support key points in presentation | Visual materials support key concepts in presentation | Visual materials facilitate understanding of abstractor difficult concepts | Slides effectively support and enhance the presentation | |
| | Does not adequately defend research; Fails to respond adequately to key questions | Adequately defends research; answers questions but with little in sight | Competently defends research; provides helpful answers to questions | Masterfully defends research; provides clear and insightful answers to questions | |
| | Responses are weak and show little to no understanding of the question/research | Responses show basic understanding of research methods and findings | Responses display an in- depth comprehension of the research, including | Responses relate the hypothesis, methods, results and significance of the | |
| Consistently fails to be appropriately responsive to questions unless prompted Structure of responses is weak and or difficult to follow Defense of Thesis | Generally independently responsive to questions with occasional prompting or leading required | hypothesis, experimental design and significance Independently responsive to questions with limited need for | proposed research to more abstract ideas in the area of specialization Independently responsive to | | |
| | Structure of response adequate, but some clarification/expansion of answers may be required | prompts or clarification Structure of responses provides evidence of reflective organization of information | structure and breadth of content or responses provides evidence of reflective and creative organization of information | | |

| Total | Coor |
|-------|-------|
| ıotai | Score |

| Required Approvals | | |
|---------------------------|-----------|------|
| Major Advisor | | |
| • | Signature | Date |
| Graduate Program Director | | |
| G | Signature | Date |