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|  | Traditional Master of ScienceResults of Final Comprehensive Examination (Defense) |

*This form is to be completed by the Major Professor and returned to the Graduate School of Biomedical Sciences immediately following the defense. The Major Professor should check the appropriate overall evaluation box on behalf of the committee. Changes or corrections requested by the committee should be communicated directly to the candidate in a detailed statement. If the student did not pass the thesis defense or the thesis defense was adjourned due to unsatisfactory student performance, the Major Professor should explain the circumstances and indicate procedures to be followed subsequently. This explanation should be attached to the completed form and submitted to the Dean of the Graduate School of Biomedical Sciences. In the event that the student does not perform satisfactorily at the thesis defense, he/she will be given only one additional opportunity to defend. In the event that the student does not perform satisfactorily on the second defense, he/she will be dismissed from the graduate program.*

**Student Name:**       **Discipline:**

**EMPL ID:**       **Date of Defense:**

**Evaluation by the Committee:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Competencies/Student Learning Outcomes (Detailed Description of Scoring Rubric on attached page)** | **Does Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Biomedical Scientific Knowledge** |  |  |  |
| Demonstrates knowledge in the biomedical, translational, and/or clinical sciences | [ ]  | [ ]  | [ ]  |
| Critically analyzes and evaluates literature in the biomedical sciences to discover and implement new knowledge and skills  | [ ]  | [ ]  | [ ]  |
| Demonstrates advanced understanding of a range of technical and conceptual approaches used in biomedical sciences research | [ ]  | [ ]  | [ ]  |
| **Communication Skills** |  |  |  |
| Demonstrates effective written communication skills | [ ]  | [ ]  | [ ]  |
| Demonstrates effective oral communication skills | [ ]  | [ ]  | [ ]  |
| Articulates the significance and implications of own work to scientific and lay audiences | [ ]  | [ ]  | [ ]  |
| **Experimental Design, Research and Analytic Skills** |  |  |  |
| Appraises, modifies, and/or creates and implements scientific methods toward addressing problems in biomedical science. Biotechnology and Forensic Genetics majors will also demonstrate technical competency in the laboratory. | [ ]  | [ ]  | [ ]  |
| Demonstrates mastery of technical and conceptual approaches | [ ]  | [ ]  | [ ]  |
| **Career Development and Collaboration**  |  |  |  |
| Engages in independent learning and networking | [ ]  | [ ]  | [ ]  |
| Critically examines and synthesizes ideas, methods, and practices of others | [ ]  | [ ]  | [ ]  |

**Overall Evaluation:** [ ] Meets Expectations (Passed) [ ] Exceeds Expectations (Passed with Distinction)

[ ]  Does Not Meet Expectations (Did not Pass))

 [ ] Must repeat the thesis defense by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (insert deadline date).

[ ] Failed Second Attempt. As this is the second attempt to successfully complete the thesis defense, the student will be dismissed from the Graduate School of Biomedical Sciences.

**Final Letter Grade Assigned for Practicum/Thesis (A, B, C or F):**

***Signatures:***

|  |  |  |
| --- | --- | --- |
|  |  |  |
| *, Major Professor* |  | *, University Member* |
|  |  |  |
| *, Committee Member* |  | *, Department Chair (of Student’s Major Professor)* |
|  |  |  |
| *, Committee Member* |  |  |
|  |  |  |
| *, Committee Member (if applicable)* |  | *J. Michael Mathis, PhD, EdD, Dean* |
|  |  |  |

**Master of Science**

**Thesis Defense Scoring Rubric**

**General Guidelines for Completing the Evaluation**

**Does Not Meet Expectations**: Unable to perform the indicated task at the degree- and stage-specific level of graduate training even with prompting and guidance

**Meets Expectations**: Able to perform the indicated task at the degree- and stage-specific level of graduate training with minimal prompting or guidance

**Exceeds Expectations**: Able to perform the indicated task at or above the degree- and stage-specific level of graduate training without prompting or guidance

1. **Demonstrates knowledge of discipline-specific subject matter (as defined by learning objectives from discipline-specific required course(s))**

**Does Not Meet Expectations –** Student demonstrates incomplete knowledge of discipline-specific information consistent with graduate level training

**Meets Expectations -** Student demonstrates advanced knowledge of discipline-specific information consistent with graduate level training, with some prompting and guidance

**Exceeds Expectations –** Student demonstrates the ability to apply advanced knowledge of discipline-specific information at the graduate level, without prompting or guidance

1. **Critically analyzes and evaluates literature in the biomedical sciences to discover and implement new knowledge and skills**

**Does Not Meet Expectations -** Student demonstrates a limited understanding of the literature related to their work and is unable to compare and contrast the existing information with their work

**Meets Expectations –** Student demonstrates an understanding of literature related to their work and is able to compare and contrast the existing information with their work, with minimal prompting and guidance

 **Exceeds Expectations -** Student demonstrates a comprehensive understanding of the literature related to their work and is able to compare and contrast the existing information with their work, without prompting or guidance

1. **Demonstrates advanced understanding of a range of technical and conceptual approaches used in biomedical sciences research**

**Does Not Meet Expectations –** Student inadequately describes appropriate technical and conceptual approaches to address biomedical sciences research questions

**Meets Expectations** – Student describes appropriate technical and conceptual approaches to address biomedical sciences research questions, with minimal prompting and guidance

**Exceeds Expectations** – Student describes and applies multiple technical and conceptual approaches to address biomedical sciences research questions, without prompting or guidance

1. **Demonstrates effective written communication skills**

**Does Not Meet Expectations –** Student’s writing does not follow a logical sequence and/or rarely uses appropriate scientific language. The writing contains numerous grammatical and/or spelling errors, thus ineffectively communicating ideas.

 **Meets Expectations –** Student’s writing generally follows a logical sequence and uses appropriate scientific language. The writing may contain some grammatical and/or spelling errors, but effectively communicates ideas.

**Exceeds Expectations –** Student’s writing follows a very logical sequence and uses appropriate scientific language. The writing contains minimal grammatical and spelling errors, thus effectively communicating ideas.

1. **Demonstrates effective oral communication skills**

**Does Not Meet Expectations -** Student does not follow a logical sequence. Student mispronounces terms, does not use appropriate scientific language, makes persistent grammatical errors, and does not speak clearly.

**Meets Expectations –** Student follows a logical sequence but provides minimal elaboration. Student generally pronounces terms correctly, uses appropriate scientific language, makes limited grammatical errors, and speaks clearly most of the time.

**Exceeds Expectations -** Student follows a logical sequence, elaborates well, and provides clear explanations. Student pronounces all terms correctly, uses appropriate scientific language, makes no grammatical errors, and consistently speaks clearly.

1. **Articulates the significance and implications of own work to scientific and lay audiences**

**Does Not Meet Expectations –** Student inadequately discusses the significance or implications of their work

**Meets Expectations –** Student discusses the significance and implications of their work at the graduate level, with minimal prompting and guidance

**Exceeds Expectations -** Student discusses the significance and implications of their work at or above the graduate level, without prompting and guidance

1. **Demonstrates the ability to develop and clearly state hypotheses and design aims and experimental approaches to test proposed hypotheses**

**Does Not Meet Expectations –** Student does not develop or present hypotheses, aims, and experimental approaches to test the proposed hypotheses, even when prompted or guided

**Meets Expectations –** Student develops and presents hypotheses, aims, and experimental approaches to test the proposed hypotheses, with minimal prompting and guidance

**Exceeds Expectations -** Student independently develops and presents hypotheses, aims, and experimental approaches to test the proposed hypotheses, without prompting or guidance

1. **Demonstrates mastery of technical and conceptual approaches**

**Does Not Meet Expectations -** Student does not consistently perform routine techniques and experiments, even with assistance

**Meets Expectations -** Student performs most routine techniques, advanced techniques, and experiments, with minimal assistance

**Exceeds Expectations -** Student consistently performs all routine techniques, advanced techniques, and experiments, without assistance

1. **Demonstrates scientific rigor and reproducibility through accurate data analysis leading to sound scientific conclusions**

**Does Not Meet Expectations -** Student does not consistently explain the rationale/background for the proposed experiments, an/or use the scientific method, and/ or utilize appropriate statistical analyses

**Meets Expectations –** Student explains the rationale/background for the proposed experiments, uses the scientific method, and utilizes appropriate statistical analyses leading to appropriate conclusions, with minimal prompting and guidance

**Exceeds Expectations -** Student clearly explains the rationale/background for the proposed experiments, uses the scientific method, and utilizes appropriate statistical analyses with high rigor leading to appropriate conclusions, without prompting and guidance

1. **Engages in independent learning and networking**

**Does Not Meet Expectations -** Student does not actively and independently review literature, seek out new learning opportunities, and/or discuss research ideas and data, even with prompting and guidance

**Meets Expectations –** Student actively and independently reviews literature, seeks out new learning opportunities, and discusses research ideas and data with others, with minimal prompting and guidance

**Exceeds Expectations -** Student actively and independently reviews literature, seeks out new learning opportunities, and discusses research ideas and data with others, without prompting and guidance

1. **Critically examines and synthesizes ideas, methods, and practices of others**

**Does Not Meet Expectations –** Student does not consistently critically examine and synthesize ideas, methods, and practices of others, or creatively apply them to a biomedical science question, even with prompting and guidance

**Meets Expectations –** Student critically examines and synthesizes ideas, methods, and practices of others, and creatively applies them to a biomedical science question, with minimal prompting and guidance

**Exceeds Expectations -** Student critically examines and synthesizes ideas, methods, and practices of others, and creatively applies them to a biomedical science question, without prompting or guidance