**Research Postgraduate MPhil and PhD Thesis Rubric**

**Suggested Guidelines (Department of Biology)**

This rubric is designed to assist in the evaluation of research postgraduate students’ ability to successfully prepare their thesis and is applicable to all programmes that have a thesis requirement. The rubric includes evaluation criteria, and allows for the addition of criteria important to individual departments/programmes. The rubric below should be considered a model on which individual departments may modify to suit their own needs.

This rubric should:

1. provide research postgraduate students with a clear understanding of the elements of their written MPhil/PhD thesis deemed most important to the defense committee;
2. provide multiple perspectives on students’ ability to successfully prepare their research in respect to their chosen field of study;
3. encourage conversations among departmental colleagues about improving graduate student learning outcomes and assessment;
4. serve as a potential source of programme-level data on the attainment of the programme’s learning outcome, for submission as part of their assessment report.

Characteristics of the Introduction/Literature Review:

1. Includes  a substantive  literature  review  that  places  the  student’s  research  within  its  appropriate  scientific  context;
2. Identifies the  specific  gaps  in  knowledge  that  the  student intends  to  address;
3. Makes an  argument  for  the  broader  significance  of  his/her  research  when  addressing  these.

Characteristics of the Methodology:

1. Provides an  overview  of  the  methodological  approach;
2. Provides  sufficient  details  so  that  readers  can  judge  the  appropriateness  of  the  quantitative/qualitative  methods;

Characteristics of the Results:

1. Describes  the  experimental  rationale,  approach  and  findings;
2. Interprets  the  results  within  the  specific  scientific  context  constructed  in  the  Introduction ;

Characteristics of the Discussion/Conclusion:

1. Briefly  highlights  major  findings,  acknowledging  complexities  of  the  data,  as  well  as  inconsistencies and  limitations;
2. Explicitly  relates the  implications  of  their  research  findings  (results)  within  the  scientific  context  constructed  in  the introduction.  The  narrative  should  draw  connections  between  the  student’s  research  findings  and  other  published  work;
3. Highlights  how  the  study could  lead  to  future  research  within  the  field;

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For each of the categories, assign a score of 0 through 4. Enter scores in the rightmost column. Evaluators are encouraged to assign a zero to any work sample that does not meet the benchmark level performance.

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| --- | --- | --- | --- | --- | --- | --- |
|  | **Capstone**  4 | **Milestones**  3 2 | | **Benchmark**  1 | **Unacceptable**  0 | **Score** |
| **Introduction**  **/Literature Review** |  |  |  |  |  |  |
| Evidence | Current, comprehensive, complete; shows evaluative knowledge of the primary literature; critically evaluates opinions of experts. | Current and complete; shows knowledge of the primary literature; evaluates some opinions of experts. | Current but not comprehensive; shows some knowledge of the primary literature; accepts most opinions of experts. | Current but incomplete; shows some knowledge of some of the primary literature; accepts opinions of experts. | Hastily prepared; limited in scope; neither current nor complete; does not critically evaluate opinions of experts. |  |
| Research question/ Theme/rationale | Research question(s)/theme is clear; develops a concrete rationale for the research question(s); guides the reader directly to the theme/hypothesis. | Research question(s)/theme is clear; develops a reasonable rationale for the research question(s); reader can discern theme/hypothesis. | Research question(s)/theme is present; rationale for the research question(s) available but difficult to follow; does not guide the reader directly to the theme/hypothesis. | Research question(s)/theme is present but rationale is not appropriate; does not clearly direct reader to the theme/hypothesis. | No research question(s)/theme; no rationale for the study. |  |
| Synthesis of literature | Provides a focused synthesis of the literature; shows an excellent relationship between the literature and the research question(s). | Provides a mostly focused synthesis of the literature but some fragmentation; shows a good relationship between the literature and the research question(s). | Provides a modest synthesis of the literature; relationship between the literature and the research question(s) is present and is partially developed. | Provides some synthesis of the literature; relationship between the literature and the research question(s) is present but not developed. | Literature is fragmented; no synthesis. |  |
| **Methodology** |  |  |  |  |  |  |
| Research Design | Appropriate procedures; describes procedures clearly with sufficient detail to permit another researcher to repeat the research; use appropriate methods to generate, collect, and analyze data; has appropriate controls; applies new methods or novel approach. | Appropriate procedures; described in sufficient detail; include appropriate controls; appropriate data analysis methods. | Appropriate procedures; described in detail; sometimes sufficient for replication; adequate controls. | Appropriate procedures; described in minimal detail; insufficient for replication; missing some controls but data can still stand. | Inappropriate design or methods; insufficient detail; inappropriate controls. |  |
| Handling of Data | Always accurately organizes data into patterns; always connects patterns to hypotheses. | Consistently organizes data into patterns; most of the patterns are connected to hypotheses. | Consistently organizes data; some data organized into patterns; some patterns are connected to hypotheses. | Consistently organizes data, though not necessarily in patterns; data connected to hypotheses but rarely in patterns. | Shows little insight; data not organized; misses patterns in data; no connection to hypotheses. |  |
| Analysis of Data | Done rigorously; strong statistical foundation for the analysis; creative analytical methods; demonstrates excellent understanding of statistical analysis. | Accurate statistical application based on good statistical foundation; demonstrates understanding of statistical analysis. | Accurate use of statistics; acceptable understanding of statistical foundation. | Statistical tools used but with only limited understanding of statistical foundation. | No analysis or use of inappropriate statistical tools. |  |
| **Results** |  |  |  |  |  |  |
| Data Presentation | Shows evidence of rigorous data collection; excellent data quality; unambiguous and clearly presented tables, figures and graphs; shows creativity in presentation. | Shows evidence of good data collection procedures; good data quality; unambiguous and clearly presented figures and graphs. | Shows evidence of acceptable data collection procedures; adequate data quality; acceptable figures and graphs that are presented clearly. | Shows evidence of minimally acceptable data collection procedures; Some data have low quality; acceptable figures and graphs but not clearly presented. | Shows evidence of sloppy data collection; much of the data is of low quality; hastily prepared; poorly presented figures and graphs; ambiguous. |  |
| Communication of Results | Results of the data collection use  techniques that describe the data and  reveal meaningful relationships that  exist in the data. | Results of the data collection are  described limitedly to reveal meaningful relationships that exist  in the data. | Results are adequately stated in an objective manner. | Results are simply stated  in an objective manner. | Does not present results  of the data collection. |  |
| Interpretation | Synthesizes and integrates all data; clear understanding of data and their implications; can back up all interpretation with valid results; does not claim findings that are not evident from the data. | Synthesizes and integrates most data; clear understanding of most of the data and their implications.; can back up most interpretation with valid results; does not claim findings that are not evident from the data. | Synthesizes and integrates some of the data; understanding of most of the data but not all their implications; can back up most interpretation with valid results but some interpretations speculative; does not claim findings that are not evident from the data. | Some understanding of the data but not all their implications; synthesizes information to a small degree; can back up most interpretation with valid results; but some interpretation is speculative. | Does not understand the data or their implications; can not back up all interpretation with valid results; claims findings that are not evident from the data. |  |
| **Discussion & Conclusion** |  |  |  |  |  |  |
| Integration with current knowledge | Excellent use of citations and thorough integration of findings with the current literature. | Good use of citations and integration of findings with the current literature. | Adequate use of citations and adequate integration of findings with some of the current literature. | Partial use of citations but minimal integration of findings with the current literature. | Improper use of citations and fails to integrate findings with the current literature. |  |
| Discussion | Provides a compelling discussion of the implications of the findings (positive and negative), placing their importance within the context of current knowledge. | Makes a good attempt to discuss the implications of the findings. | Makes an adequate attempt to discuss the implications of the findings. | Makes a partial attempt to discuss the implications of the findings. | Makes no attempt to discuss the implications of the findings. |  |
| Conclusions | Conclusion is extremely clear, succinct, and complete.  Conclusion clearly follows from results, is accurately described in  detail in terms of data analysis, showing excellent methodological and conceptual  rigor. | Conclusion is clear, succinct, and complete.  Conclusion clearly follows from results and is explained in terms of the analysis of the data, showing good methodological and conceptual rigor. | Conclusion is mostly clear, succinct, and complete.  Conclusion adequately follows from results  and is explained in terms of the analysis of the data, showing adequate  methodological and conceptual  rigor. | Conclusion is often unclear; not succinct.  Conclusion partially follows from results and is explained in terms of the analysis of the data, showing partial methodological and conceptual  rigor. | Conclusion is not clear; not succinct; not complete.  Conclusion does not  clearly follow from the  results. |  |
| Limitations | Discusses the limitations of the study and how these limitations moderate conclusions; offers appropriate solutions. | Discusses the limitations of the study and how these limitations moderate conclusions; offers reasonable solutions. | Modest discussion of the limitations of the study and how these limitations moderate conclusions; does not offer solutions. | Minimal discussion of the limitations of the study and does not offer solutions. | No discussion of the limitations of the study. |  |

**References:**

Adapted/derived from the:

[“Honors College: Rubric for the Written Thesis,”](http://honors.wsu.edu/academics/thesis/library/Thesisrubric.pdf) University of Washington, Seattle, Washington

[“Rubric for Evaluating MS Thesis or PhD Dissertation and Defense (Final Oral Exam),](http://www.oie.msstate.edu/assessment/pdf/rubric/Thesis_and_%20Dissertation_Rubric.pdf)” Georgia Health Sciences University, Augusta, Georgia

[“Written Material Rubric”](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CB0QFjAA&url=https%3A%2F%2Fwww.twu.edu%2Fdownloads%2Fbiology%2FWritten_material_rubricSMCORR10.1.doc&ei=xhoNVIviOsPi8AXbzoLYBA&usg=AFQjCNE5mpYXqagS8R-SFIp4OcODPgBTxw&bvm=bv.74649129,d.dGc), Texas Women’s University, Denton, Texas