## **CMB Program Preliminary Exam Evaluation**

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| Use this form as a guide for evaluating the student’s performance in the written and oral portion of the preliminary exam. It should be completed and handed to the chair of the committee at the end of the examination. The chair will prepare a statement summarizing the examination and provide a copy to each committee member, to the student and to the CMB graduate office within 1 week of the examination. It is the student’s responsibility to give a blank copy of this form to each member of the committee and to give the final research proposal to the CMB graduate office within 1 week of completing the examination, regardless of whether they pass or fail. |

The proposal should not be evaluated as if it were being considered for funding. One goal of the preliminary exam is to ascertain whether the student understands their chosen field sufficiently that they can formulate an interesting and original hypothesis and develop means to test it. This exam also tests the student’s ability to communicate their ideas effectively both orally and on paper.

| **Student Name:** |  |
| --- | --- |
| **Date of Examination:** |  |
| **Name of Committee Member:** |  |

**Scoring: 4-Excellent 3-Very Good 2-Good 1-Needs Improvement 0-Unacceptable**

(examples provided below)

Primary Adviser(s) declare that the Independent Specific Aim is suitably divergent from current or proposed research in their lab:  Yes  No

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| --- | --- | --- |
| **Criteria** | **Score** | **Comments** |
| **WRITTEN EXAMINATION** | | |
| **Overall Appearance** | | |
| The proposal was handed in on time |  |  |
| The proposal adhered to the agreed format (font, margins, length etc) |  |  |
| Grammar and spelling were acceptable |  |  |
| Figures were relevant, clear and cited appropriately |  |  |
| Literature was cited appropriately. |  |  |
| **Overall Score for Appearance** |  |  |
| **Significance** | | |
| The background information was sufficient for the reader to understand the context of the research and gain perspective |  |  |
| Rigor of prior research was addressed |  |  |
| The student showed a good grasp of the literature |  |  |
| The writing was concise and thoughts well-organized |  |  |
| The significance of the proposed study is clearly stated |  |  |
| **Overall Score for Significance** |  |  |
| **Approach** | | |
| The student formulated an interesting and original question for the independent aim |  |  |
| The proposed experiments will test the hypotheses presented in the proposal |  |  |
| Potential pitfalls have been considered and alternative approaches are suggested |  |  |
| Appropriate, state-of-the-art techniques are proposed |  |  |
| Techniques other than those the student routinely uses were proposed in the independent Specific Aim |  |  |
| Experiments are designed to give robust, unbiased results and will be subject to appropriate statistical analyses |  |  |
| **Overall Score for Approach** |  |  |
| **Overall Score for the Written Examination** |  | **Pass/Fail** |
| **Additional Criteria** | | |
| Please indicate whether the following parts of the proposal are acceptable (A or NA). | | |
| **Respective Contributions:** The student clearly and accurately described contributions of others to the preparation of the proposal. |  |  |
| **Data Management Plan:** The student described a coherent and comprehensive plan for managing and sharing data |  |  |
| **Authentication of Resources:** The student addressed common issues known to occur with resources to be used in the project |  |  |
| **ORAL EXAMINATION** | | |
| **Presentation** | | |
| The slides were relevant and well-prepared |  |  |
| The oral presentation was easy to follow and kept the audience’s attention |  |  |
| **Overall Score for Presentation** |  |  |
| **Questioning** | | |
| The student demonstrated a clear grasp of the literature specific to the proposal |  |  |
| The student has a strong background knowledge of the literature related to the general field of study |  |  |
| The student demonstrated the ability to think creatively and confidently communicate their ideas |  |  |
| The student demonstrated a solid understanding of cellular and molecular biology |  |  |
| **Overall Score for Questioning** |  |  |
| **Overall Score for Oral Examination** |  | **Pass/Fail** |

| **General Comments:**  Committee members are free to weight the various criteria to come up with an overall score – these are just guidelines. If the student fails either the oral or the written part of the exam, they fail the examination. In this case, the requirements to pass the exam should be defined by the committee and may include rewriting the proposal, taking additional classes and/or repeating the oral defense of the proposal. |
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Examples to help with scoring:

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| Score | Criteria |
| 4 Excellent | Exceptional, at most only one or two minor weaknesses. |
| 3 Very Good | Several minor weaknesses. |
| 2 Good | Many minor weaknesses or one moderate weakness. |
| 1 Needs Improvement | At least one major weakness or many moderate weaknesses. |
| 0 Unacceptable | Multiple major weaknesses. |

Minor weaknesses:

This type of weakness is easily rectifiable and does not substantially reduce the impact of the research.

e.g. Occasional grammatical errors/spelling. Experiment missing a control. Inadequate description of experimental details. Lack of knowledge in one area of expertise. Use of an out-dated but valid experimental approach. Failure to adequately consider alternative approaches. Proposal slightly over-ambitious. Insufficient or incorrect citations.

Moderate weaknesses:

This type of weakness significantly impacts the research but can be rectified with some effort.

e.g. Poorly defined hypothesis. Use of an out-dated experimental approach when far better approaches are in common use. Inadequate background knowledge in important areas within the field of study. Significance of the research is questionable. Written proposal does not follow required format (too long, significance not addressed, excess/irrelevant background, insufficient space devoted to experimental design). Experiment does not test the hypothesis presented. Controls not considered. Poor oral communication of ideas. Proposal is under-ambitious (e.g. would take one person a few months to complete). Proposal relies mainly on approaches that the student uses on a daily basis in their own work.

Major weaknesses:

This type of weakness amounts to a “fatal flaw” and requires extensive work to bring up to standard.

e.g. Entire proposal is very poorly written (e.g. no logical flow, poor English). Student does not appear to understand fundamental concepts in their field. Student demonstrates little ability to present a solution when flaws in the proposal are pointed out. No hypothesis and/or no ability to develop one. Proposal consists of data collection with no plans for analysis, interpretation or follow-up. Plagiarism.