BIOL340/981 Scientific report peer-marking rubric.

INSTRUCTIONS

Students are required to use Feedback Fruits to review two peer scientific reports based on the data obtained from the practical sessions (Weeks 1-5).

The reports should have the following sections: Title, Abstract, Results, Discussion and References

Written feedback should be provided where appropriate and marks should be awarded based on the below rubric:

Criterion	Absent	Developing	Fair	Excellent	Outstanding
	0 points	1 point	2 points	3 points	4 points
Title Title succinctly describes the study undertaken. Includes student's (author's) name.	Title not present. Author not listed.	Title is inaccurate. Author is listed.	Title is unclear. Author listed.	Title is clear but not concise. Author listed.	Title is clear and concise. Author listed.
Abstract The abstract is a summary of the report and includes: purpose of the study (1-2 lines), basic experimental design (1-2 lines), brief description of major results, or trends of the study and a brief (1-2 lines) summary of your interpretations and conclusions.	Abstract is missing or is missing three or more components of a good abstract. Is not written in a scientific style. Includes references in abstract.	Missing two components of a good abstract. Does not give an overview that leads directly to the reader being able to state the major findings of the study.	Is missing one component of a good abstract. Abstract is not well organized or concise.	States clearly the question being asked. Highlights most important findings with enough information to understand experiments. States major findings and conclusions. Lacks clarity and could be more concise.	States clearly the question being asked. Highlights most important findings with enough information to understand experiments. States major findings and conclusions. Is a concise summary of question and findings.

Results: Descriptive text Each result section must include a brief introduction on the experiment (what, why and how) followed by a written description of the data including any control samples if applicable. Describe any trends demonstrated by the data. Statements are clear, concise and accurate, using scientific language to describe the results. Do NOT discuss results.	No description of results provided.	Description attempted but incomplete or confusing. An attempt may have been made to discuss the results.	Results are described in adequate detail to allow the reader to form conclusions, however there is some attempt to discuss the results, or there are some issues with the accuracy of the description. Poor scientific language has been used to describe the observations.	Results are described in adequate detail to allow the reader to form conclusions, with no attempt to discuss the results or only minor issues with the accuracy of the description. Adequate scientific language has been used to describe the observations.	Results are succinctly and accurately described allowing the reader to form conclusions, with no attempt made to discuss the results. Appropriate scientific language has been used to support the description.
Results: Data presentation Data should be presented in the form of figures/graphs, or tables. It may also be more appropriate to simply refer to a result in the text. Do not present data more than once, and only include analysed data. Four figures are required, the box plot from WL1, the MTS and Calcein Assay plots from WL2 and the combined boxplot from WL3 Each figure or table should have a detailed title/legend, numbered accordingly, and must be referred to in the written text of the results. Data and figure axes are appropriately labelled and scaled with units.	Labels or units are missing which prevent the reader from being able to derive any useful information from the figure or table. Presentation of data is in an inappropriate format. Captions are confusing or indecipherable.	Contains some errors in or omissions of labels, scales, units etc., but the reader can derive some relevant meaning from each figure or table. One or more figures is missing Is technically correct but inappropriate format preventing the reader from deriving meaning. Captions are missing, incomplete or inadequate.	Contains minor mistakes that do not interfere with the reader's understanding and the figure's meaning is clear without the reader referring to the text. Graph or table formats are appropriate for data type. Includes captions that are somewhat useful.	Contains only minor mistakes. Uses a figure or table format which is relevant to the data and demonstrates the relationships between the data points and/or other relevant aspects of the data. Has informative captions but not concise.	Contains no mistakes. Has all relevant figures and demonstrates the relationships between the data points and/or other relevant aspects of the data in an elegant way. Error bars are included where applicable. Has informative, concise and

					complete captions.
Discussion: Insights into data Interpret and draw conclusions from the results (i.e., explain what the results mean). Be thorough and clear but concise. Begin with an introductory paragraph reminding the reader of the aim/approach and summarise the major findings. Do NOT re-describe the results. Include any criticisms with suggested improvements of methods used and explain the relationship between the conclusions. Comment on the significance and context of the work reported (i.e., how the study relates to the field of cell and molecular biology in general). Refer to external resources and other relevant materials (journal articles/references).	Conclusions are missing.	Conclusions have little or no basis in the data provided. Connections between research questions/aims, data and conclusion are non-existent, limited, vague or otherwise insufficient to allow reasonable evaluation of their merit.	Conclusions have some direct basis in the data but have large gaps in logic or are overly broad. Connections between research questions/aims, data and conclusions are not present, or present but weak.	Conclusions are logically drawn from the data provided. A reasonable and clear connection from research questions/aims to data to conclusions is presented.	Conclusions are clear and completely justified by data. Connections between research questions and aims, data, and conclusions are comprehensive and persuasive.
Discussion: Limitations of design Limitations of the data and/or experimental design and corresponding implications are discussed. Alternative explanations or method approaches are considered.	Limitations and alternatives are not discussed.	Limitations are discussed in a trivial way (e.g., 'human error' is the major limitation). Alternatives are not proposed.	Some limitations are identified with some alternatives mentioned, but not in a reasonable way.	Limitations are relevant but conclusions do not overstep the bounds indicated by the limitations. Discussion of alternatives is reasonably complete, using data where possible.	Limitations are presented clearly, and conclusions take these limitations into account. Discussion and analysis of alternatives is based on data and use of literature; complete and persuasive.

Scholarly sources and referencing Evidence for the use of literature with credible or peer-reviewed sources. UOW Harvard referencing style required.	Referencing is absent/unsystematic.	Some attempt at referencing but contains multiple inaccuracies with limited use of literature.	Referencing has some inaccuracies. Limited use of literature.	Referencing is mainly accurate and demonstrates utilisation of literature (5 references minimum).	Referencing is consistently accurate and indicates good utilisation of literature (>5 references included).
Appendix – R code for figure preparation	No code provided	Code provided but incomplete, with errors and unannotated.	Code provided but with some minor errors and little annotation.	Code provided but with minimal or no errors and some useful annotation.	Fully annotated code is provided that clearly explains what is happening at each step of the data analysis.
Writing quality and formatting	Grammar and spelling errors detract from the meaning of the paper. Word usage is frequently confused or incorrect. Information is presented in a haphazard way.	Grammar and spelling mistakes do not hinder the meaning of the paper. General word usage is appropriate, although use of technical language may have occasional mistakes. There is some evidence of an organisational strategy though it may have gaps or repetitions	Grammar and spelling have few mistakes. Word usage facilitates reader's understanding. Lacks logical progression of ideas and organisation in some places. Other formatting requirements need improving.	Grammar and spelling have few mistakes. Word usage facilitates reader's understanding. A clear organisational strategy is presented with a logical progression of ideas. Other formatting requirements have been mostly followed.	Correct grammar and spelling. Word usage is accurate and aids the reader's understanding. A clear organisational strategy is presented with a logical progression of ideas. There is evidence of active planning for presenting information;

this paper is easier to read than most. Formatted as instructed.

Participation in Peer review	No peer reviewed reports, or reports reviewed with no comments (0 marks)	One or two peer reviewed report including marks and comments (2 marks)	Three peer reviewed reports including marks and comments (4 marks)
TOTAL MARK / 40			