School of Chemistry & Molecular Biosciences

Postgraduate Biotechnology, Molecular Biology & Bioinformatics

Research Report

Course Name	Credit Units	Recommended Report Length (excluding bibliography)
BIOX7002, BIOX7003	2	15 pages
BIOX7004, BIOX7005	4	25 pages
BIOX7008, BIOX7009, BIOX7011, BIOX7012, BIOX7013, BIOX7014, BIOX7015	8	40 pages
BIOX7021, BIOX7022, BIOX7023, BIOX7042, BIOX7025, BIOX7026	16	80 pages

Examiners are to mark the student's final report based on three major components:

Content **70%**

References **20%**

Presentation **10%**

Note that each component **does not contribute equally** to the final mark.

Examiners please note the general assessment criteria below when awarding mark.

85% and above	Work of exceptional quality consistent with a student who would make a strong PhD candidate or research assistant; the report contains frequent examples of excellent critical thinking skills and personal insights into the research area.
75-85%	Work of very good quality consistent with a student who would make a good PhD candidate or research assistant; the report contains examples of excellent critical thinking skills and personal insights into the research area.
65-75%	Work of good quality in all aspects of the report as expected from a student who has the potential to be able to undertake a PhD or act as a research assistant, but shows lesser critical thinking skills and personal insights into research area.
55-65%	Adequate quality in most aspects of the report, but some inadequacies in understanding, critical thinking skills, literacy, organisation and presentation.
50-55%	Adequate quality work with significant deficiencies in understanding, critical thinking skills, literacy, organisation and presentation.
<50% (Fail)	Inadequate quality work with significant errors and deficiencies in understanding, critical thinking skills, literacy, organisation and presentation.

Please return to:
School of Chemistry & Molecular Biosciences Administration
adminenquiries@scmb.uq.edu.au
SCMB Reception – Level 3, Building 68

Candidate	O[redacted]P[redacted] - [redacted]	
Mark/100	88	The marking rubric overleaf must be completed also. Please circle as appropriate.
Examiner		
Examiner's signature		
Date	June 22, 2022	

Justification:

	(90% and above)	(85-90%)	(75-85%)	(65-75%)	(55-65%)	(50-55%)	Fail (<50%)
CONTENT (70%) **Background, hypotheses and aims**	**1.** Very focused and concise background, leading to a completely clear and logical plan. **2.** Very clear links between hypotheses (where relevant)/aims and literature.	**1.** Highly focused and concise background, leading to a clear and logical plan. **2.** Clear links between hypotheses (where relevant)/aims and literature.	**1.** Focused and concise background, leading to a clear or logical plan (but not both). **2.** Links between hypotheses (where relevant)/aims and literature.	**1.** Background is not focused or concise. Logical plan. **2.** Links between aims and literature, but no clear hypotheses (where relevant).	**1.** Some key basic information missing in background. **2.** Links between hypotheses (where relevant) and/or aims and literature often not clear.	**1.** Much of the key basic information missing in background. **2.** No clear links between hypotheses (where relevant)/aims and literature.	**1.** Significant information in background missing. **2.** No hypotheses (where relevant) or aims apparent and thus no links to literature.
Methodology	**1.** Clear and detailed description of methodology and statistical analysis. **2.** Comprehensively planned and accurate experimental design. Appropriate methods approach used.	**1.** Clear and detailed description of methodology and statistical analysis. **2.** Accurate experimental design. Appropriate methods/approach used.	**1.** Clear description of methodology and statistical analysis but minor detail lacking. **2.** Accurate experimental design. Appropriate methods/ approach used.	**1.** Description of methodology & statistical analysis mostly clear but some detail lacking. **2.** Minor inconsistencies in experimental design. Appropriate methods/approach used.	**1.** Description of methodology and statistical analysis lacking major details. **2.** Minor inconsistencies in experimental design. Methods/approach not always appropriate.	**1.** Description of methodology & statistical analysis lacking major details. **2.** Major inconsistencies in experimental design. Limited range of methods used & often not appropriate.	**1.** Methodology / approach and statistical analysis not described.
Data analysis	**1.** Very appropriate and accurate data analysis throughout. No over-interpretation. **2.** Data described logically and comprehensively with clear reference to figures & tables. **3.** Data flows logically and comprehensively from original aims.	**1.** Appropriate and accurate data analysis. No over-interpretation. **2.** Data logically described with clear reference to figures and tables. **3.** Data logically flows from original aims.	**1.** Appropriate data analysis, but some minor miscalculations/inaccurate data presentation. No over-interpretation. **2.** Data logically described with reference to figures & tables. **3.** Data flows from original aims.	**1.** Appropriate data analysis, but significant minor miscalculations, inaccurate presentation or over-interpretation of data. **2.** Data described mainly with reference to figures and tables. **3.** Minor misalignment between data & flow from original aims.	**1.** Inappropriate data analysis used in some parts. Some data incorrectly interpreted. **2.** Data described but not with appropriate reference to figures and tables. **3.** Major misalignment between data and flow from original aims.	**1.** Inappropriate data analysis used. Major data sets incorrectly interpreted. **2.** Data not described in appropriate detail and does not support or relate to original aims.	**1.** No attempt to analyse data or no data presented.
Critical analysis	**1.** Comprehensive critical analysis of strengths and limitations of experiments/investigative approaches taken, consistently linked with literature.	**1.** Critical analysis of strengths and limitations of experiments/ investigative approaches taken, linked with literature.	**1.** Some critical analysis of strengths and limitations of experiments/ investigative approaches taken, with some links to literature.	**1.** Some critical analysis of experiments/ investigative approaches taken, but results mostly descriptive with few links to literature.	**1.** Limited critical analysis of experiments/ investigative approaches taken, and results mostly descriptive with few links to literature.	**1.** Very limited critical analysis of experiments/ investigative approaches taken, and no clear links to literature.	**1.** No critical analysis or data presented.
Discussion & conclusions	**1.** Discussion clear and logical. Clear and comprehensive understanding of significance of data. **2.** Conclusions fully supported by data. Clear and comprehensive demonstration of how study adds to field of knowledge. **3.** Future directions identified and clearly justified.	**1.** Discussion clear and logical. Clear understanding of significance of data. **2.** Conclusions supported by data. Clear demonstration of how study adds to field. **3.** Future directions identified and justified.	**1.** Discussion clear and logical. Understanding of significance of data. **2.** Conclusions supported by data. Some evidence of how study adds to field. **3.** Future directions identified and clearly explained.	**1.** Most of discussion clear, but some minor omissions. Some understanding of significance of data. **2.** Minor misalignment of conclusions and data. Some evidence of how study adds to field. **3.** Future directions identified and explained.	**1.** Some major omissions in discussion. Few links between data & published work made. **2.** Some misalignment between conclusions & data and not clear how study adds to field. **3.** Future directions identified.	**1.** Discussion does not extend beyond results. Misunderstanding of some major concepts. **2.** Major misalignment between conclusions and data. **3.** Few future directions identified.	**1.** Discussion does not extend beyond results. Misunderstanding of many major concepts. **2.** No alignment between conclusions and data. **3.** No future directions identified.
REFERENCES (20%)	**1.** Predominant and comprehensive use of primary articles. **2.** All articles presented from recent and seminal publications. **3.** No errors in citation style or reference list.	**1.** Predominant use of primary articles. **2.** All articles presented from recent & seminal publications. **3.** Few minor errors in citations or list.	**1.** Predominant use of primary articles. **2.** Most articles presented from recent and seminal publications. **3.** Many minor errors in citations or list.	**1.** Some over reliance on reviews. **2.** Most articles presented from recent and seminal publications. **3.** Many minor errors in citations or list.	**1.** Significant over reliance on reviews. **2.** Many articles not from recent and seminal publications. **3.** Some major errors in citations or list.	**1.** Major over reliance on reviews. **2.** Limited number of recent or seminal articles used. **3.** Many major errors in citations or list.	**1.** Use of literature limited to a few articles and reviews. **2.** Poor attempt to explore literature. **3.** Major errors in citations & list.
PRESENTATION (10%)	**1.** No grammatical or spelling errors. Professional expression and style used consistently. **2.** All figures accurate, consistent and informative. **3.** Sections distinct and report logically organised.	**1.** No grammatical or spelling errors. Professional expression and style used. **2.** All figures accurate and informative. **3.** Sections distinct and report logically organised.	**1.** Minor grammatical or spelling errors. Professional expression and style used. **2.** All figures accurate & informative. **3.** Report logically organised, but minor crossover between sections.	**1.** Minor grammatical and spelling errors. Professional expression and style used. **2.** Most figures accurate & informative. **3.** Report logically organised, but major crossover between sections.	**1.** Significant grammatical and spelling errors. Professional expression used. **2.** Most figures accurate. **3.** Report not logically organised.	**1.** Major grammatical and spelling errors. Professional expression used. **2.** Numerous errors in figures. **3.** Report not logically organised.	**1.** Major grammatical and spelling errors. Unprofessional language used. **2.** Numerous errors in figures. **3.** Report not organised.

Student Name: O[redacted] P[redacted]

Research Report

Specific comments (to be transferred to student)

Strengths:
1. The research problem of clarifying the performance of classification problems in different parts of the sampling space is important and significant for the successful practice of machine learning. The research problem is interesting for a broad audience. 2. A rich set of statistical machine algorithms are adopted for data analysis. 3. Solid application background. 4. Extensive data analysis with results presented in many figures.
Weaknesses:
1. Some concepts are not treated rigorously. For example the notion "one-feature error distribution" in Section 2.1: what really it is? 2. The statistical machine learning background is not sufficiently provided. For example, the concepts of "feature", "gini", "error", and so on.
Suggestions:
1. Use mathematical formulas to document the concepts (e.g., the notion of "relative error distribution", "differing values of the feature", and so on) 2. When composing the report, try to stay away from your research work so as to make sure the report can easily be followed by the readers who are not familiar with your research. 3. Perhaps it is better to use integral rather than sum, for "Equation 2" on page 11 of the pdf file. 4. Provide page numbers so that readers can cite to communicate ideas.