**Academic Promotion – Supporting Evidence**

**Optional:** This form may be used by academic staff applying for promotion to provide supporting evidence **(up to 4 pages)** for the claims made in the application. This may include benchmarking data, excerpts from testimonials from individuals / external organisations, and/or other objective information.

|  |  |
| --- | --- |
| **Name** | JULIAN PAKAY |
| **Position title** | SENIOR LECTURER |
| **School/Division** | SCHOOL OF AGRICULTURE, BIOMEDICINE AND ENVIRONMENT/ BIOCHEMISTRY AND CHEMISTRY |
| **Academic Level sought** | D |

**Appendix 1: Feedback on 3rd Year Biochemistry Subjects and Major**

Student Feedback on Subject Scores (SFS) have been consistently high for all the third-year biochemistry subjects following the curriculum realignment. I conduct practical classes (in 2024 with Fung Lay and Jason Paxman), a high number of lectures and coordinate the subjects and so the SFS is highly reflective of my teaching. In 2023 all questions had a modal response of 4 or 5 for each subject. The practical subjects, BCH3AAB and MED3LAB had an average SFS score of 4.31 and 3.83 respectively and the theory subjects, BCH3BSB and BCH3ATB average score of 3.88 and 4.49 respectively, against a School average of 4.12 over the same period.

In 2023, the biochemistry major at LTU received a positive external review:

“Overall, the Biochemistry major offered here is an excellent course and comparable to that of Uni of Melbourne, Monash, and Deakin. It will set students up for a good learning experience, and a range of employment options.”

* Prof. Jade Forwood, Director Biosecurity, Charles Stuart University

**Appendix 2: Representative Student Feedback on Authentic Assessment**

Unsolicited testimonial on News and Views Assessment in BCH3ATB:

“Hi Julian,

I hope you are doing well! I am a few weeks into my Honours year at the Peter Doherty Institute and just wanted to say that 3rd year biochemistry (especially 2nd semester) has really helped me. We are doing an

experimental design unit (I got to listen to David Vaux at a seminar – it was great) and now have been assigned to write a News and Views article! Both of which I am familiar with because of your subject – so thanks for that!”

Jennifer Habel (2019)

Unsolicited testimonial on Student Led Tutorial Assessment in MED3LAB:

“The student-led tutorials and discussions challenge our pre-existing understandings surrounding biochemistry in laboratory settings, and help students formulate more profound knowledge of the content via the plethora of academic perspectives expressed by students in discussion.”

Helena Porter (2024)

**Appendix 3: Student Feedback for BIO1MGC**

After codesigning the subject BIO1MGC, I personally taught lecture series on gene regulation, cell signalling and systems biology components from 2015-2017 and during this time BIOMGC ran successfully and SFS scores averaged 4.19.

In 2023 I have returned to BIO1MGC as coordinator and made significant curriculum changes. In response to ChatGPT and budgetary constraints we have removed the writing task and replaced this with a scaffolded oral presentation on threshold concepts in biochemistry. The subject received positive feedback – 3.94 overall. Student feedback reflected changes to curriculum delivery and formative feedback:

“The content and practicals were engaging, and the weekly workshop and practical quizzes gave a slight indication of how you were going with the content.”

“The practical classes proved to be highly engaging and remarkably enjoyable, offering students a valuable hands-on learning experience. The lecture content, for the most part, displayed a commendable level of conciseness, presenting information in a manner that facilitated efficient comprehension and acquisition of knowledge. The supplemental reading materials and choice of textbook exhibited a judicious selection, complementing the lectures and providing additional depth to the subject matter at hand.”

* 2023 BIO1MGC student feedback

**Appendix 4: Improved Feedback for PSB Instances**

Working with PSB teaching staff, we have seen recent improvements in SFS scores. For MED3LAB the mean SFS score for the day cohort has improved from 4.04 in term 1, 2022 to 4.43 in term 3, 2023. For BCH3ATBthe mean SFS score for the day cohort has improved from 3.30 in term 2, 2022 to 4.28 in term 3, 2023.

I developed additional support material for BCH3ATB (an academically challenging subject based on grade distribution) and reworked content. This was reflected in SFS comments:

“The best aspect of this subject is that the content was well-structured and covered a wide range of relevant topics related to membranes, cell signaling, proteins, bioinformatics, gene structure and function which cover the cellular biology of it. It also covers experimental design in molecular science and biochemistry. These allowed me to gain a comprehensive understanding of the subject and deepen my knowledge. The lectures developed were also engaging and well-paced.”

* 2023 Term 1 PSB Singapore SFS feedback

**Appendix 5: National and Internation Impact of Open Educational Resource (*Foundations of Biomedical Science*)**

*Foundations of Biomedical Science* has been a high performing publication on the CAUL OER Collective open textbook catalogue and publishing platform in terms of downloads and engagement:

From the OER Collective site, it has had 2526 downloads from unique users (the highest of the books on the platform) since March 2023, with spikes around the June and November examination periods. We have seen material from this OER adopted in 1st year biology at University of California, Berkely and Auburn University, Alabama.

|  |  |  |  |
| --- | --- | --- | --- |
| *Foundations of Biomedical Science* | | | |
| When | Visitors | Total web hits/engagements | Full-text downloads |
| 2023 | 2392 | 6735 |  |
| 2024 (January-May) | 2861 | 5211 |  |
| **Total** | **5253** | **11,900** | **4437** |

*Foundations of Biomedical Science* received positive reviews upon publication:

“Students will get a lot out of working through this book. It introduces the mathematics in a non-intimidating way but also helps students to recognise the relevance mathematics has to their field of study. In addition, students are encouraged to think metacognitively about the work they are doing.”

Dr Brandon Cheong - A multi-disciplinary (Biomedical Science, Public Health & Digital Health) Lecturer and Course Coordinator of the Master of Public Health at Australian Catholic University

“I would strongly recommend this book for any academics that are teaching/expecting quantitative literacy in biomedical science (relevant to any of the science subjects e.g. biochemistry and genetics)”

Jodie Young – Lecturer, Department of Biochemistry and Chemistry, La Trobe University

**Appendix 6: National and Internation Impact of Open Educational Resource (*Threshold Concepts in Biochemistry*)**

In 2023, *Threshold Concepts in Biochemistry* featured the highest number of downloads of all books per month on the CAUL OER Collective open textbook catalogue and publishing platform:

|  |  |  |  |
| --- | --- | --- | --- |
| *Threshold Concepts in Biochemistry* | | | |
| When (May 2023 - April 2024) | Visitors | Total web hits/engagements | Full-text downloads |
| **Total** | **4009** | **9296** | **2480** |

Material from *Threshold Concepts in Biochemistry* has been adopted material in 1st year biology at University of California, Berkely, Auburn University (Alabama), Marshall University (West Virginia) and University of Texas Rio Grande Valley.

It has also earned favourable online reviews from academics:

“This textbook offers a good introduction to basic biochemical concepts. The writing style is easy to follow, and the authors offer encouragement and excellent advice to students starting their study of biochemistry.”

Arnulfo Mar - Associate Professor of Biochemistry, University of Texas Rio Grande Valley

“The content of this book is excellently crafted... it is very easy to understand...well organised...easy to navigate.”

Yongick Kim - Assistant Professor, Marshall University