Analysis of Teaching Performance and Course Coordination (since last promotion)

In this document, I present a comprehensive analysis of my sustained excellence in teaching performance and external engagement since my last promotion. This analysis is supported by triangulating three robust sources of evidence: Unit of Study Survey (USS) scores for my coordination of toxicology (PCOL3011) and toxicology advanced (PCOL3911), written student feedback from the PCOL3011 USS (2015 – 2024), and unsolicited e-mail commendations from students in toxicology and other courses into which I have taught. I also include responses from students taking my projects with external engagement with Australian Industrial Chemicals Introduction Scheme (AICIS) and an email from a secondary STEM teacher praising my performance in the CSIRO Scientists in Schools Program. These examples demonstrate high level performance across all dimensions of teaching both within and outside my specific unit of study and the University.

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Analysis of USS Scores

The overall average score (green) for the Toxicology unit (PCOL3011, Fig. 1) has shown a consistent increase during my period as coordinator and following my last promotion. This figure reflects sustained high performance and the positive impact of my continuous improvements to the unit of study. The analysis shows average scores over this period have increased for both toxicology standard and advanced (Supplementary Evidence 1) rising from **3.62 (2015) to 4.37 (2024) [r=0.67, p<0.05] and 3.70 to 4.62 [r=0.74, p<0.05]** for standard and advanced courses respectively. The observed decrease in enrolments can be attributed to the introduction of competing units of study, particularly with the development of the Medicinal Chemistry major and the establishment of the Westmead precinct. These developments have limited students' capacity to enrol in PCOL3011 alongside their MCHM units, but I nonetheless also make an outstanding contribution to MCHMA (see comment 2). A similar upward trend in overall average USS scores is evident for the smaller Advanced Toxicology unit, PCOL3911 (Fig. 2).

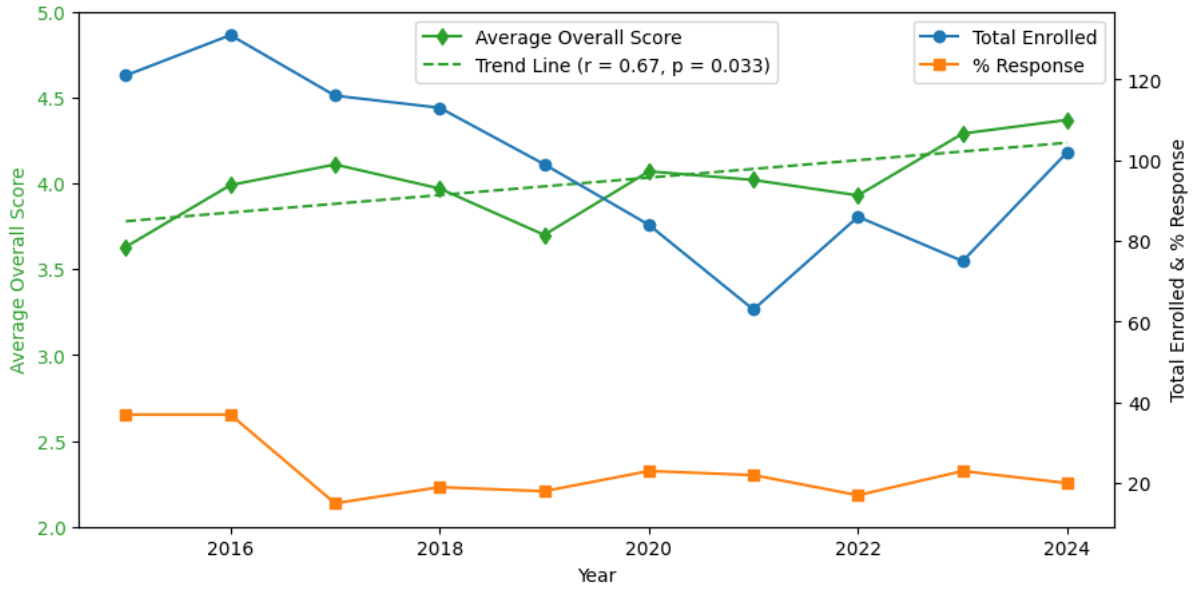

Figure 1: Trend line in green shows improvement in overall average USS score for toxicology since 2015. Decrease in enrolments occurred due to introduction of competing units of study in medicinal chemistry (MCHM units).

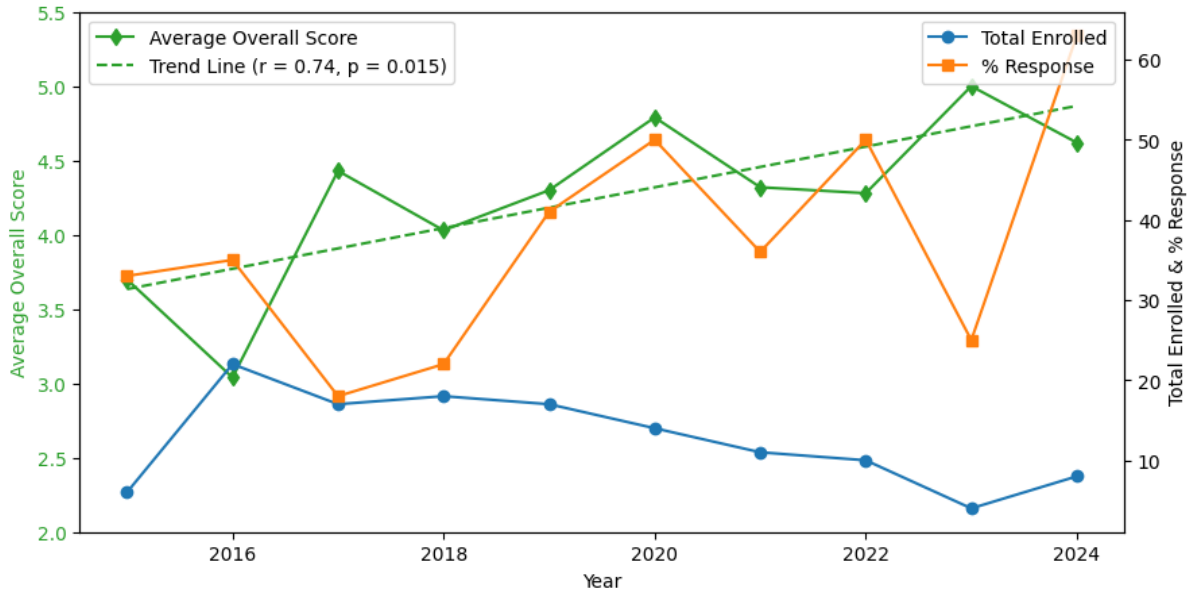

Figure 2: Trend line in green shows improvement in overall average USS score for Advanced toxicology (PCOL3911) since 2015.

Written Comments from Students Since 2015 Demonstrate Sustained Teaching Performance (PCOL3011, since last promotion)

Further evidence of sustained teaching performance is reflected in the comments of students in the toxicology unit of study.

> **2015:** *"The teaching has been of high quality. Dr Slade Matthews in particular was outstanding..."*
>
> **2016:** *"Slade is a legendary lecturer... having a strong understanding for the student experience"*
>
> **2017:** *"...Slade Matthews, the coordinator of the course made sure that we had assistance every step of the way..."*
>
> **2018:** *"Slade actually taught scientific statistics in a way that made sense and is useful for a future career"*

2019: *"Excel data management workshops- VERY USEFUL! Finally actual real world skills I will use! These workshops inspired me to do research into further postgrad study in data science!"*

2020: *"The hardworking and very dedicated Dr. Slade Matthews- he had the best lectures, and I looked forward to watching them every week."*

2021: *"I really like the structure of the lectures, as the core points are made clear. I also liked the data-side of the LD50 report - it was very daunting, but it really makes you think about what the values like SEM and SD actually mean."*

2022: *"Has been the most enjoyable unit I've done during my degree so far!"*

2023: *"Slade Matthews is such an amazing unit coordinator and compelled all students to be a part of a great learning environment."*

2024: *"Never thought I'd enjoy Toxicology as much as I have throughout this semester! - Journal clubs in the tutorials also work well to complement the course material..."*

Asynchronous Emails

Additionally, I have received unsolicited praise from students via email, as exemplified by these example messages from 2024, 2022, 2019, and 2017. Two of the emails are from my toxicology unit of study while the other two are from students who only received one lecture from me in medicine and medicinal chemistry. Email 5 (2021) was from Jenifer Price, a STEM teacher enrolled in the CSIRO Scientists in Schools Program.

A particularly memorable occasion was when Tommy Lu, a former medicinal chemistry student to whom I had given a lecture (**email 2**, **MCHM3888,** 2022), approached me last year at the Australasian Society for Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) conference in Melbourne, 2024. He expressed his gratitude for inspiring him to pursue research in computational approaches in medicinal chemistry and proudly presented his research poster in chemical spatial analysis to me.

Phoebe (**email 1, 2024**) expressed appreciation for the management of the **PCOL3011** and shared that other students were also appreciative of the organization. Oliver (**email 3, 2019**) describes facing challenging learning activities and the feeling of growth as he grained essential skills in **PCOL3011** toxicology. Alexandros (**email 4**) was a **medical student** to whom I had lectured on cardiovascular autonomic pharmacology who described my lectures are "lightyears ahead" of other pharmacology lectures he had received. Jenny (**email 5, 2021**) praised my ability to engage secondary students during a talk I gave to the class over Zoom due to COVID restrictions.

1. Student Email 2024: Phoebe Ng (PCOL3011), **praise for engaging lecturers**

From: Phoebe Ng <phng6890@uni.sydney.edu.au>
Sent: Thursday, 4 July 2024 3:45 PM
To: Slade Matthews
Subject: Thank you for a fun Semester!

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Professor Matthews (or Slade as you often encouraged us to call you),
My name is Phoebe Ng and I was a student of PCOL3011 from last semester and i wanted to thank you for an amazing Semester because you made the content very engaging and i enjoyed every toxicology and data lecture you did. It was also very fun talking with you outside the Unit (like when you told me about how you enjoyed playing minecraft) or when you were very chill during the data lectures.
A lot of the students I spoke with shared my sentiments and enjoyed your Unit as much as I did (aside from the cockroach prac). And i wanted to voice my appreciation for how you handled the unit.
I also wanted to share that I've been watching a new anime with friends called Apothecary Diaries and even though there are some aspects of it being inaccurate (such as being able to intake enough poisons you'll gradually grow immune), there were a lot of plot points and toxicogical aspects in the story that I was able to notice and appreciate thanks to your teaching. I do hope you give it a watch if you have the time, maybe you might cringe at how some of it is inaccurate or be able to say 'hey! I remember this from toxicology!"
I typically don't send these type of emails to any unit coordinators but I think for first time, this might be the exception!
Best Wishes,
Phoebe Ng

2. Student Email 2022: Tommy Lu (MCHM3888), **inspired to research computational medicinal chemistry**

From: Tommy Yuan-Yuan Lu <tolu3003@uni.sydney.edu.au>
Sent: Thursday, 13 October 2022 8:59 PM
To: Slade Matthews
Subject: Research Interest

Hi Slade,

This is Tommy - I met you in the MCHM3888 lecture on Wednesday. I thought the lecture was brilliant! I've not heard much on medicine with this level of consideration about computer science. As I mentioned, my majors are in medicinal chemistry and computer science, so this area of research really does interest me. I was wondering if you might be free some time for a coffee? I'd love the chance to hear more about your research and pick your brain about where I could take my degree in the future!

Cheers,
Tommy

3. Student Email 2019: Oliver Liang (PCOL3011), **describes challenges and growth in learning**

From: Oliver Liang <olia9830@uni.sydney.edu.au>
Sent: Tuesday, 30 July 2019 11:37 AM
To: Slade Matthews
Subject: Re: Toxicology Performance 2019

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Slade,

Thank you too for being an awesome teacher & tutor! It was a wonderful experience being your student--I am amazed by how you can teach really well and making lectures and pracs entertaining at the same time :)

Tbh the course has been a challenging one for me. However, throughout the semester I have gained a lot and have established invaluable frendships with some of my classmates. It is by precisely challenging myself to learn that I think I was able to grow both personally and academically.

Thanks again for making the course memorable! Hope to be your student and see you again in upcoming courses! 😊

Best regards,
Oliver Liang

4. Student Email 2017: Alexandros Tsathas (Medicine 1), **describes my lectures as lightyears ahead**

Med 1 student question

From Alexandros Tsathas <atsa2274@uni.sydney.edu.au>
Date Thu 2017-11-02 18:52
To Slade Matthews <slade.matthews@sydney.edu.au>

Dear Dr Matthews,

I hope this email finds you well. My name is Alexandros Tsathas and I am currently a Stage 1 medical student at USyd. You have only lectured us the once, but your lecture was lightyears ahead of the other pharmacology lectures given to us throughout the year, and so I have this question for you:

Why does aspirin work *immediately* in acute coronary syndrome?

I understand that aspirin is a COX1 inhibitors, and via this mechanism it prevents the synthesis of TXA2 in endothelial cells. But what about the cisterns full of TXA2 that has already been synthesised, and is waiting to be released from platelets? It would make more sense to me if aspirin behaved like warfarin, and took time to influence TXA2 synthesis.

Kind regards,

Alexandros Tsathas
Stage 1 Medical Student | Central Clinical School
The University of Sydney
E-mail: atsa2274@uni.sydney.edu.au
Phone: 0422 613 465

5. Email from **STEM Teacher, 2021**: Bethlehem College Ashfield RE: online visit

From: Jennifer Price <jennifer.price001@syd.catholic.edu.au>
Sent: Tuesday, 18 May 2021 8:24 AM
To: Slade Matthews
Subject: thanks

Hi Slade
Thank you for giving of your time so generously last week. I thought we would be finished after about 1/2 hour but the students were really interested in what you had to say. They also had quite a few questions. They said you reminded them of Dr Karl - that's a good thing!

Thanks again,
Jenny

Bethlehem
COLLEGE ASHFIELD
"Through Hope We Flourish. Together We Prosper" - 2021 SRC Motto

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Ashfield, NSW 2131
P (02) 9798 9099
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Este Fideles 1881-2021

Responses from PCOL3021, PCOL3911, PCOL3888 Students about Chemical Regulation Assignments and Engagement

In my collaboration with the Australian Industrial Chemicals Introduction Scheme, I developed assessments for students in PCOL3911, PCOL3021 and PCOL3888 around chemical assessment and application of pharmacological skills to real world problems. I also arranged for a regulatory scientist to visit and give yearly seminars to the PCOL3888 students. The projects are extremely popular with the students as evidenced by these comments in a project quality survey for PCOL3021 in 2017 and USS surveys for PCOL3911 and PCOL3888:

Comments from PCOL3021 Project Survey (2017):

> *"Dr Matthews was an excellent supervisor, giving us a good outline for how to complete the work, and was also inspirational in regards to his passion and enthusiasm towards to content and pharmacology in general."*

"I really enjoyed the meetings and visit with NICNAS as part of the project. I also really liked the 'real life' application of the project. Writing the report was really insightful into what a job in pharmacology/sciences could offer. This project was very fulfilling and I highly recommend for future years. Slade was a fantastic supervisor."

"The project (NICNAS) was a really great way to look in detail at an aspect of pharmacology not directly covered in coursework. The depth of research required and the potential implications were very interesting. I thought it was an exceptional opportunity"

"Listening and talking to people that work for NICNAS. I thought it was really good to get an idea of what pharmacologists can actually do in the workplace"

"Cosmetics is not a common topic that is researched, but I find it really interesting!"

"more trips and involvement with NICNAS would be a bonus but I understand that would be difficult to organise."

Comment from PCOL3911 USS (2018):

"Learning how to use excel properly and being taught it in a way that was clear to me as a student who does not have a strong Excel background. ***The NICNAS site visit was informative as well as writing the report and learning where to look for toxicology information.*** *Learnt a lot about statistics and data which will be applicable in the future"*

Comments from PCOL3888 USS (2023):

In PCOL3888 we invited speakers from government (AICIS), industry and academia to speak with interdisciplinary pharmacology students. USS comments on these seminars show students appreciate that the seminars highlight how their developing skills can be applied to real-world problems in future. Guest from AICIS spoke on public health issues of vaping and tattoo ink safety.

> *"There were a few really good seminars such as the public health ones"*

> *"The guest lecturers were actually truly fascinating - and all enlightened me with different ideas and skills. I really enjoyed the psychology or marketing lecturer and the TGA <sic> lectures. I felt as if what I made could be impactful"* *[i]

> *"This unit's seminars brought a very awakening perspective on the requirements to make any medical science solutions effective in the public health space"*

> *"I enjoyed all the different seminars that we had in the morning and how they provided a range of different perspectives"*

[i] *Student means AICIS not TGA (both federal government agencies)