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Year 4 Pharmaceutical Science

Why study Pharmaceutical Science? And how has the journey been thus far?

Pharmaceutical Science brings together my interests in biology and chemistry, and opened doors to areas like formulation and pharmacokinetics. I am inspired by how scientists and clinicians work together to tackle serious diseases, from antibiotics that transformed medicine to CRISPR gene editing, and more recently, RNA-based therapies to treat conditions like Huntington's Disease. Studying Pharmaceutical Science helps me understand what makes a drug effective and how science advances human health. Now in my fourth year, the journey has been deeply fulfilling. NUS is academically rigorous yet supported by a vibrant community, and friendships have been a constant source of encouragement. I have had many opportunities for professional development and personal growth, making the experience truly rewarding.

What interests you most in your studies?

The Pharmaceutical Science programme offers specialised lab-based courses that cover essential techniques such as organic synthesis, analytical chemistry, fundamental biological methods, and basic formulation skills. These hands-on courses were engaging and provided strong training in core lab techniques used in research. Beyond the lab, courses on regulatory and legislative frameworks in the pharmaceutical and healthcare industries were informative and highly relevant for future career opportunities.

The courses are thoughtfully interconnected, with early courses laying a strong foundation for advanced topics. Year 2 Physiology gave me a comprehensive understanding of how bodily systems function and interact. This foundation clarified why drug design and formulation are critical and naturally prepared me for later courses in formulation science and pharmacokinetics.

I also value the flexibility to take reading courses across disciplines. After completing Physiology, I pursued additional Life Sciences courses out of personal interest and completed a Minor in Life Sciences, deepening my understanding of human biology and shaping my career aspirations.

Apart from academic lessons, what other programmes (e.g. UPIP, UROPS, NOC, SEP, Summer/Winter Schools/Research/Internship, etc.) did you participate in? And how did the experience(s) benefit you in your (a) personal growth and development, and (b) academic pursuits?

I have been inclined toward a research-oriented career since matriculation. In my first year, I joined the Special Programme in Science (SPS), a multidisciplinary programme focused on research, peer learning, and student mentorship.



With our poster and mentors after completion of SPS group research project (SP3172)

Through SPS, I explored courses beyond my major – such as astrophysics and environmental science – and participated in a semester-long group research project at the Department of Biochemistry, where I gained hands-on experience purifying a novel central nervous system transporter protein linked to a severe neurological disorder. After completing SPS, I continued as a student mentor and now serve as a Head Mentor, taking on course coordination and career outreach responsibilities while mentoring students.

During the summer break, I interned at A*STAR's Infectious Diseases Labs (IDLabs), where I broadened my exposure to infectious disease research and learned advanced techniques while optimising a screening method for antibodies against an antibiotic-resistant bacterial strain. This experience offered insight into real-world research and reaffirmed my commitment to a research-oriented path.

In my third year, I went on a Semester Exchange Programme (SEP) at the University of Sheffield, taking courses in Neuroscience, Cell Physiology, and Korean Language while immersing myself in a diverse international community. Living abroad broadened my global perspective and opened doors to postgraduate opportunities overseas.

What other interesting activities did you partake in to further enrich your student life, e.g. extra-curricular activities on campus (e.g. NUSPS, House, etc.)?

I joined Pharmacy Rag and Flag (Pharm RxAG) under NUS Pharmaceutical Society. As part of NUS's RAG and FLAG initiative, it culminates in a full day performance at UTown Green with choreography, floats, and costumes. I signed up for the Floats team to design and build stage structures. The preparation was demanding but immensely rewarding. Through Pharm RxAG, I met my first university friends, received guidance from seniors, and learned to navigate university life. Motivated by the experience, I became Design Head the following year to give juniors the same sense of belonging and support. Pharm RxAG was both enjoyable and meaningful, helping me forge lasting friendships and enrich my student life.

What advice do you have for the incoming students or juniors?

Stay receptive to new experiences throughout your university journey. While academic excellence matters, take risks and explore opportunities beyond the classroom. Do not underestimate yourself. Similar motivations led me to apply for programmes like SEP and SPS, as well as internships and mentorship roles, all of which significantly contributed to my growth. Cherish your friendships and make the most of your connections. Your university journey is yours to shape.



Conducting a quality control test on our formulated tablet during a lab session



**SEP in UK
Hiking in the peak district**



Group photo after our Pharm RxAG performance