AT MONASH PHARMACY AND PHARMACEUTICAL SCIENCES
WE’RE ON A MISSION TO MAKE HEALTHCARE BETTER
And our mission begins with what’s most important: educating the next generation of pharmacists and pharmaceutical scientists.

It’s why we focus on small group learning that allows you to receive individual attention from some of the world’s leading educators.

It’s why we focus on equipping you with not just the most up-to-date knowledge but also with the skills you need to put that knowledge into practice.

And it’s why both of our undergraduate degrees offer extensive experiential opportunities, so you can integrate what you’ve learnt in the classroom with what goes on in the wider world.

It’s the mission we’ve had since 1881, long before we became one of the world’s most highly regarded institutions in our field, when we began serving Victoria as the Victorian College of Pharmacy.

Studying with us offers you a unique opportunity to become part of a tight kni community of people at the highest echelons of their professions, all utterly dedicated to improving the world around them.

Please, join us.
MONASH PARKVILLE
THE BEST OF
BOTH WORLDS
IN ONE WAY, WE’RE SMALL.

We’re a community of about 1500 people (researchers, educators, students, administrators) bound together by a shared passion for the transformative power of medicines. We’re fascinated by the biology, chemistry and biomedical science that underpin pharmaceuticals and are dedicated to making sure medicines are used safely, effectively and with maximum benefit for our communities. Our small size means students get to know each other and their instructors well. At Monash Parkville, it’s hard to slip through the cracks.

BUT IN ALL THE WAYS THAT MATTER, WE’RE BIG.

We’re part of Monash, Australia’s largest university and a highly regarded global brand. This means you can enjoy the resources of Australia’s largest university. Develop your skills through a student leadership program, relax with your friends at an on-campus festival, or join a student-run club suited to your interests.

Location is everything
Located on the edge of Melbourne’s Central Business District (CBD) and easily accessible by tram and train, we’re right next door to buzzing inner-city suburbs like Carlton and Brunswick. We’re also in the heart of Melbourne’s world-renowned Biomedical Precinct, a global hub for research and healthcare talent. That comes in handy when it’s time to go on placement.

What will your week look like?
Studying at Parkville involves a mix of interactive lectures, small-group classes, self-directed learning and hands-on practical skill-building in labs and workshops.

In a typical week, you’ll follow our developed instructional model called ‘DEAR’ for ‘Discover, Explore, Apply, Reflect.’

DISCOVERY involves spending time familiarising yourself with key concepts by reading, watching videos and completing exercises online.

You’ll then EXPLORE the ideas further through interactive lectures with skilled teachers, and have the chance to APPLY your new-found knowledge in small group workshops with academics, practitioners and science facilitators.

Finally, you’ll spend some time consolidating what you’ve learnt and ensuring it makes sense in the context of your overall course, by REFLECTING on your plans for continuing development.

The course you’re undertaking will determine exactly how you’ll learn. For example, our budding pharmaceutical scientists spend more time in the lab than our pharmacists in training, who focus more on developing their clinical skills.

You’ll also have the valuable opportunity to meet regularly with a ‘skills coach’, an academic or practitioner from your course who will help you develop and implement a personalised learning plan and ensure you’re on track.
Life as an International Student in Melbourne

Moving away from home to study is exciting, but it can also be a little scary. The best way to set your mind at ease is to plan ahead and know what support is available. About 30 per cent of our Parkville students come from overseas. We’re well-equipped to support international students, and can direct them to the services of our larger campuses if necessary.
Photos 1 and 2 were taken by Hefeng Song, a current international student studying the Bachelor of Pharmaceutical Science.
EXPERIENCE MELBOURNE

Consistently ranked one of the world’s most liveable cities, Melbourne is known for welcoming international students and providing them with a memorable experience while they’re here. A vibrant, multicultural city, it has something to offer every lifestyle, no matter what your interests. It boasts many man-made and natural tourist attractions, plays host to regular sporting and cultural events, and has a thriving food scene that will satisfy any palate and budget.

Life in Melbourne also comes with additional benefits for international students. We have an excellent public transport system, including a ‘free tram zone’ around our CBD. You’re able to work up to 20 hours a week alongside your studies, and many of our students pick up casual jobs at local pharmacies to subsidise their expenses.

The City of Melbourne also has a dedicated ‘hub’ for international students to gain advice on any issues they may be facing. For more information, visit www.studymelbourne.vic.gov.au/help-and-support/study-melbourne-student-centre

ACCOMMODATION AND COST OF LIVING

Melbourne offers a range of accommodation options to suit your lifestyle and budget. Whilst Parkville doesn’t offer on-campus accommodation, affordable rental accommodation is plentiful in our surrounding neighbourhoods, such as Melbourne, Parkville or Brunswick.

If you’re interested in living on campus, there are many options available at our largest campus in Clayton. Some of our international students choose to live at Clayton, however please note that it can mean quite a long journey to get to and from your classes at Parkville. Visit monash.edu/mrs for more information.

Want to live in the Melbourne CBD or near our Parkville campus but not sure where to start? Contact our off-campus accommodation unit in the first instance. Dedicated staff can advise you on appropriate options, including Monash-preferred suppliers, and look out for your legal interests before you sign a contract. If you’re looking for a full residential college experience, they can also tell you about your options with University of Melbourne Residential Colleges.

Once you’re studying with us, the off-campus accommodation unit is available for consultation, ensuring you receive ongoing support.

Monash off-campus accommodation
Email: ask@monash  |  Phone: 1800 666 274
visit monash.edu/accommodation/accommodation/off-campus-options

For information about the daily costs of living in Melbourne, visit monash.edu/cost-of-living

SETTLING IN TO YOUR NEW LIFE ABROAD

Everyone experiences different feelings and concerns when they move country, and it’s important to know what support is available to help you manage how you’re feeling at any given time. Below are a range of Monash-delivered support services and programs to assist in your academic and social success during your time with us.

24-hour security
According to the latest Safe Cities Index, Melbourne ranks as the tenth safest city in the world. When on campus, your safety is our responsibility. We have a visible 24-hour security desk on campus, and many students know our security personnel by name. They’re friendly and always on hand to walk you to nearby public transport or your car, should you wish. Visit [monash.edu/about/safety-security](http://monash.edu/about/safety-security)

Monash students are also encouraged to use the bSafe app that provides quick access to emergency services, urgent on-campus assistance, counselling, incident reporting tools and more. Visit [monash.edu/students/safety-security/bsafe-app](http://monash.edu/students/safety-security/bsafe-app)

One place, all your questions answered
One of the most important places on campus for you will be our Monash Connect Student Services desk. Whatever your question, it’s a great place to start. Staff can directly assist with a range of matters about admissions, enrolment, fees, student visas, accommodation, language support, academic support, graduations, scholarships and finding your way around campus. Visit [monash.edu/connect](http://monash.edu/connect)

Practice your English
Many international students are able to greatly improve their verbal and spoken English during their time abroad. Much of this improvement happens naturally — from studying in a country with English as a first language — but at our Parkville campus, we also offer a range of free English programs. The Let’s Chat program allows you to practice your conversational English whilst also learning about Australian culture, and the Peer Support program offers one-on-one assistance in written English. Visit [monash.edu/english-connect](http://monash.edu/english-connect)

Be happy and healthy
At Parkville, we’re in the business of healthcare, so we know that it’s important to look after our students’ physical and mental wellbeing at all times. Wellbeing Monash offers expert services in health and wellbeing on a range of matters from physical health, counselling and religious services. We also provide assistance to students living with a disability. Visit [monash.edu/health](http://monash.edu/health) and [monash.edu/disability](http://monash.edu/disability)

Make like-minded friends for life
Research shows that if you’re socially connected to your peers outside the classroom, you’re more likely to perform better academically. We have more than 100 student-run clubs and societies across our campuses that you can get involved with. A number of these clubs are based at Parkville, and we even have a dedicated Student Experience Officer who’s responsible for your social experience on campus. During O Week, the Student Experience Officer will put you into a group with a current Parkville student and a number of other new students, allowing you to kick-start your university friendships from day one. Visit [monash.edu/study/student-life/clubs-and-societies](http://monash.edu/study/student-life/clubs-and-societies)
PHARMACY
ESSENTIAL WORKERS, SUPPORTING HEALTHIER COMMUNITIES

Now, more than ever, the world needs pharmacists. As the experts in medicines and the way they interact with the body, pharmacists play a vital role in healthcare teams. Medication-related problems account for around 750,000 hospital admissions in Australia each year, and in 2019 medicine safety became a national health priority. In 2021, community pharmacists joined the nation-wide taskforce to vaccinate millions of Australians against COVID-19 and help protect our communities.

JOB PROSPECTS ARE BRIGHT

In Australia, an ageing population combined with more and more people living with chronic health conditions, means that health professionals are in constant demand. The number of job ads for pharmacists has grown exponentially in recent years, with a study led by Monash University concluding that Australia could in fact face a pharmacist shortage.

If you’re looking to become a healthcare professional within a highly in-demand profession — and also love the idea of making a true difference to people’s lives — then a career as a pharmacist might be for you.

COMBINED BACHELORS AND MASTERS

Four years ago, Monash launched Australia’s first and only combined Bachelor of Pharmacy (Honours) / Master of Pharmacy program, offering a unique pathway for students to graduate with a higher level of learning in the same number of years it typically takes to become a pharmacist.

In Australia, it typically takes a minimum of five years to become a registered pharmacist. Traditionally this has taken the form of a four-year bachelor, followed by a year during which you complete a paid internship and an Intern Training Program. Our program takes the same amount of time and you still complete the paid internship and Intern Training Program. But instead of graduating with one degree, you’ll graduate with two: a master as well as a bachelor.

Real world experience: placements and internship

As part of the program you’ll undertake work placements in community pharmacies, hospitals and other environments, practicing your new skills while learning from some of Australia’s best pharmacists about areas such as primary health care, medicines information, and patient-focused pharmacy services.

Earn while you learn: how does the intern year work?

During your intern year (fifth year), you’ll combine supervised practice (for which you’ll be paid), with intern studies (Intern Training Program and Intern Foundation Program). This intensive combination of learning and working will ensure you’re well prepared for your final registration exams and, arguably more importantly, confident to qualify as a practicing pharmacist.

Whilst all your placements are organised for you by the faculty, you’re required to secure your own internship yourself — just as you would your first job. But don’t worry — historically, students rarely struggle to find internships, as intern pharmacists are in-demand. Further, you’ll have developed a network of pharmacy practitioners through your placements in earlier years.

Flexibility to suit your needs

If you aim to register and work as a pharmacist in Australia, our Bachelor of Pharmacy (Hons) / Master of Pharmacy is a direct pathway to registration. However, we understand that everyone has different circumstances; you may not be willing to commit to five years of study quite yet, or you could be an international student aiming to work back in your home country. If this sounds like you, we have provision for students to enrol in our four-year Bachelor of Pharmacy (Honours) in the first instance, with the ability to automatically qualify for a place in the Masters upon completion.

In my first year of the program I was so pleasantly surprised by the flexibility and practicality of the program — I was given the opportunity to contribute to a journal, gain hands on experience through working in a community pharmacy and I even participated in a global competition which has led me to working with Australia’s Immunisation Coalition to help educate Australian’s on the flu vaccine. The educators really help you to find your own path.”

YANNEE LIU

Yannee Liu always knew she wanted to work in healthcare and was drawn to pharmacy following an inspiring presentation about the important and rewarding role pharmacists play within the healthcare system. Now in her second year of the Bachelor of Pharmacy (Honours) / Master of Pharmacy, Yannee says that the flexibility and broad range of opportunities that have come her way is what she has loved the most about her time at Monash so far.
I decided to move from Vietnam to Melbourne four years ago, mainly to pursue a better education. But now looking back, I realised it was a life-altering decision that exposed me to an exciting new culture, new people, and a new life with amazing opportunities.

Living in a completely new city was and is still challenging, but it made me become more courageous, independent and mature. In addition to adjusting to different environments and cultures, I learned to sharpen my soft skills through team-based activities, presentations and oral exams.

I am now in my intern year at Western Health – one of the public hospitals in metropolitan Victoria. I have aspired to be a clinical pharmacist in a hospital for a very long time, so I am very excited to commence on this new path.

For any students considering pharmacy at Monash, it will be challenging but also worthwhile. Be proactive and have a positive attitude! During your studies, try to remind yourself of your aspirations and directions, which will help you gain more strength and motivation to make a difference.”

ANNIE PHAM
Bachelor of Pharmacy (Hons) / Master of Pharmacy student, and Pharmacy intern at Western Health

DID YOU KNOW?
Pharmacy graduates almost universally get jobs straight out of university, with 95.7 per cent in full-time employment shortly after graduating.*

*Source: Graduate Outcomes Survey 2020
GRADUATE ENTRY PATHWAY
BECOME A PHARMACIST FASTER

Graduate Entry Pharmacy is for students who choose to study a more general science-based degree after high school, or didn’t meet our pharmacy course requirements at the end of Year 12. You’ll commence into third year of our Bachelor of Pharmacy/Master of Pharmacy program, eligible for registration as a pharmacist in just three years, including a paid internship.

Who’s eligible?
It’s important you know our eligibility requirements for Graduate Entry Pharmacy and build them into your course progression if necessary.
To be eligible for the program, you need to have completed a relevant degree in the last ten years with a minimum average of 70% (or equivalent) across your whole degree.
Relevant degrees include:
• Bachelor of Biomedical Science/Bachelor of Biomedicine
• Bachelor of Health Sciences
• Bachelor of Pharmaceutical Sciences
• Bachelor of Science

In assessing your eligibility, we’ll take into account the number of relevant subjects you’ve completed. The units completed in your degree should be appropriate and science based.

For more information about Graduate Entry Pharmacy, including eligibility and application information visit monash.edu/graduate-pharmacy

Summer school: Bridge to practice I
Once you’re accepted into the program, you’ll need to complete a 6.5 week intensive summer school, commencing in early January. This program helps you start to transition your science knowledge to a pharmacy context.

Upon successful completion of summer school, you’ll commence into Year Three of the program, essentially being awarded two years of credit. You’ll need to complete one additional overload unit, Bridge to practice II, which continues to further the application of your science knowledge to pharmacy.

How do I apply?
Applications for 2022 entry are currently open and will close on 15 November, 2021.
Apply at: applicant.connect.monash.edu.au/connect/webconnect

The Graduate Entry Pharmacy program was challenging at times, but it was also rewarding to see how far we all came in a short period. Although the course was structured quite differently to my previous Commerce/Science degree, it was designed to allow us to learn new information in lectures, and then further consolidate our knowledge and understanding.

This year I am undertaking my internship in a hospital setting at Monash Health. The process of applying for hospital internships is streamlined, and the exposure Monash gave us through placements, as well as the experience gained gave me the confidence to apply to these organisations. I would highly recommend the Graduate Entry program at Monash!”

MADELEINE LACK
Graduate Entry Pharmacy student and Pharmacy intern at Monash Health
### Themed, integrated units

Like many primary healthcare courses, your units are taught thematically, ensuring you'll gain knowledge in an applied and engaging way. They also integrate with each other, meaning your knowledge will consolidate and build as you progress through the course.

If you want details about what you'll specifically be learning in your units, you'll find them in our online handbook: [handbook.monash.edu](http://handbook.monash.edu)

### Earlier and enhanced placements

You’ll be exposed to real-life practice environments as early as possible. Right from first year, you’ll spend time in experiential placement sites working with some of the best pharmacists in Australia.

To ensure you’re ready for placement, we credential you to provide appropriate patient services, allowing you to assist in contributing to patient care throughout your degree.

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**Bachelor of PHARMACY (Honours) + Master of PHARMACY**

### COURSE MAP

#### YEAR 1

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<tr>
<th>Semester 1</th>
<th>Units</th>
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<tbody>
<tr>
<td>24 credit points</td>
<td>PHR1011 Professional practice I 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR1021 How medicines work I 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR1031 How the body works 12 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR1012 Professional practice II 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR1022 How medicines work II 18 credit points</td>
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#### YEAR 2

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<tr>
<td>24 credit points</td>
<td>PHR2011 Professional practice III 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR2021 How medicines work III 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR2041 Respiratory and gastrointestinal disorders 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR2141 Dermatology and pain 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR2012 Professional practice IV 12 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR2042 Endocrinology and renal 6 credit points</td>
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<td>24 credit points</td>
<td>PHR2142 Cardiovascular 6 credit points</td>
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#### YEAR 3

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<th>Summer semester</th>
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<tr>
<td>12 credit points</td>
<td>PHR1001 Bridge to practice I (Graduate Entry Pharmacy students only) 12 credit points</td>
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<td>30 credit points</td>
<td>PHR3011 Bridge to practice II (Bridge to practice students only) 6 credit points</td>
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<tr>
<td>30 credit points</td>
<td>PHR3041 Blood, brain and cancers 12 credit points</td>
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<tr>
<td>30 credit points</td>
<td>PHR3141 Pathogens, host defence and treatment 12 credit points</td>
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<th>Units</th>
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<tr>
<td>24 credit points</td>
<td>PHR3042 Acute care 12 credit points</td>
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<td>24 credit points</td>
<td>PHR3062 Student experiential placements 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR5052 Inquiry and innovation I 6 credit points</td>
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#### YEAR 4

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<td>24 credit points</td>
<td>PHR4061 Student experiential placements 12 credit points</td>
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<td>24 credit points</td>
<td>PHR5051 Inquiry and innovation II 12 credit points</td>
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<td>24 credit points</td>
<td>PHR4012 Professional Practice V 6 credit points</td>
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<tr>
<td>24 credit points</td>
<td>PHR4042 Integrated care 12 credit points</td>
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<td>24 credit points</td>
<td>PHR5052 Inquiry and innovation III 6 credit points</td>
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#### YEAR 5

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<tr>
<td>12 credit points</td>
<td>PHR5061 Applied pharmacy practice I 6 credit points</td>
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<tr>
<td>12 credit points</td>
<td>PHR1561 Foundation practice I 6 credit points</td>
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<th>Semester 2</th>
<th>Units</th>
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<tbody>
<tr>
<td>12 credit points</td>
<td>PHR5062 Applied pharmacy practice II 6 credit points</td>
</tr>
<tr>
<td>12 credit points</td>
<td>PHR1562 Foundation practice II 6 credit points</td>
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*Note that in order to enrol in the intern training program and intern foundation program, you must have arranged to undertake your internship under the supervision of a preceptor approved by the Pharmacy Board of Australia.

#### Themed, integrated units

- Professional Practice units
- Comprehensive Care units
- How the Body Works unit
- How the Body Works unit
- Inquiry units
- Placement units
- Bridge to Practice units
- Paid internship

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*48-week paid internship*
CAREERS IN PHARMACY
A DEGREE OF OPPORTUNITY

If you’ve ever had a prescription filled at your local community pharmacy, you probably think you know what pharmacists do. The fact is, community pharmacy represents only one of dozens of career paths our graduates pursue, and many others are listed below.

AGED CARE PHARMACIST
Older people often have complex needs when it comes to medications. They are frequently taking a number of different medications and can be more susceptible to side effects. They may also need adjustments to their medications to accommodate difficulties with vision, hearing, memory or cognitive function.

CLINICAL TRIALS PHARMACIST
Pharmacists in this area support the management and delivery of clinical trials of new medicines. The role involves coordinating studies from a medicinal perspective, ensuring that drugs used in the trials are imported, stored, accounted for, compounded, dispensed and used in accordance to strict protocols. It may involve liaising with hospital staff, counselling participants and carers, and educating medical and nursing staff.

COMPLEX CARE COORDINATOR
A relatively new career path, complex care coordination involves working with a hospital healthcare team and is often combined with consultant pharmacy work. The role involves providing early post-discharge medication review and follow-up plans for patients identified as being ‘high risk’ by hospital clinicians.

CONSULTANT PHARMACIST
Accredited consultant pharmacists conduct home medicines reviews and residential medication management reviews. As with many roles, consultant pharmacists often work part time undertaking medication reviews, while also working in other healthcare settings such as working at a community health centre, working with chronic disease management groups, or providing nurse education.

DRUG SAFETY OFFICER
Pharmacovigilance is an area focusing on monitoring drug safety. A pharmacist working as a drug safety officer liaises regularly with government and industry bodies, consumers and other healthcare professionals. Their responsibilities include receiving and processing reports of adverse drug events and conducting regular conciliation with health authorities. They use their skills and qualifications to ensure the public has access to safe and reliable medications.

HOSPITAL PHARMACIST
Hospital pharmacy involves a lot of collaboration as you find yourself working closely with a team of other healthcare professionals, including doctors and nurses, to provide the best care for patients.

According to the Society of Hospital Pharmacists of Australia (SHPA), “…it offers variety, both in the roles you can have, such as clinical [i.e. direct patient care] or management, and in the types of hospitals you can work in – city or country, small or large, general or specialist.”

Working as a hospital pharmacist helps you develop valuable skills that are highly sought after in other pharmacy settings. Many pharmacists will spend some part of their career in a hospital environment.

PRIMARY CARE PHARMACIST
A practice pharmacist doesn’t dispense medicines. Instead, they work within a general medical practice to deliver direct support to general practitioners, practice nurses, and patients. They can often give more time and attention to individual cases, providing quality care and specialised services such as smoking cessation.

PUBLIC HEALTH ADVISOR
Pharmacists have knowledge, skills and experience that can contribute to advisory roles, both for the government as well as non-government institutions, such as health funds and private hospitals. The range of possible roles in this area is extensive, including medicines access, public health, developing eHealth services and more.

REGULATORY AFFAIRS ASSOCIATE
Working in regulation involves ensuring the appropriate licensing of and legal compliance by pharmaceutical and medical products. Following this career path, you’re involved in ensuring that a company’s products comply with regulations and legislation.

RESEARCHER / ACADEMIC
Many students find their passion for research while studying, and go on to make a career of exploring and developing ideas in pharmacy. Through research and evaluation, pharmacists can make a huge practical difference to health policy and services. Common research areas for pharmacy graduates include pharmacy practice, pharmacotherapy, drug discovery, toxicology, clinical sciences, public health and much more.

SPECIALTY PRACTICE PHARMACISTS
There are many different types of specialty practice pharmacists, below are just a few of the most common.

Mental health pharmacist
Mental health pharmacists in hospitals are responsible for providing clinical pharmacy services to the adult mental health in-patient wards, and psychiatric assessment and planning units. It’s a highly specialised career path that includes managing the supply of anti-psychotic medications to mental health patients in government units, outpatient clinics, community centres and specialist hospitals.

Women’s and newborns’ pharmacist
Providing safe and effective dosing and administration of medications during pregnancy and for infants is the focus of the role. One of the biggest challenges can be assisting in the care of babies born prematurely. But it’s also a highly rewarding area to work in; a skilled pharmacist can play a crucial role in giving a baby a better chance at a healthy life.

Antimicrobial steward
Antimicrobial stewardship is a vital role in any hospital and health facility, with responsibilities that include promoting the appropriate use of antimicrobials (including antibiotics), reducing microbial resistance, and decreasing the spread of drug resistant infections.

Pain educator and consultant
Chronic and acute pain are fascinating areas to work in. Pain management is a constantly evolving field that encompasses many areas of treatment, not just pharmacy and pain medications. Pharmacists work with patients to manage their medications and coordinate other forms of treatment.
Pharmacy roles are evolving to better meet healthcare and community needs, as well as adapt to advances in technology. By the time you graduate, your job could look more like what is detailed in the Pharmaceutical Society of Australia’s recent report: *Pharmacists in 2023: Roles and Remuneration.*


I was considering many study options: biochemistry in the States, medicine in Vietnam or pharmacy in Australia. I decided to join the pharmacy faculty here at Monash since I was good at chemistry but also wanted to contribute to healthcare, so either pharmacy or pharmaceutical sciences would work for me. I ultimately chose pharmacy due to the scope of future career prospects, and because I thought clinical practice would be fun.

Studying in Australia was not as lonely as I thought it would be. It was really nice to have other international students with whom I could make friends, as well as Australian students. Pharmacy has a relatively small cohort, which I love, as it allows you to know everyone and create a more concentrated circle of connections. Also, we have wonderful teachers who are willing to help and even create opportunities to accelerate your study and career.

Apart from university life, I love the Melbourne coffee culture. There are always many local coffee shops to try out! I also enjoy playing classical guitar; I once played at the Melbourne Guitar Festival in 2018, which helped me relive the time when I was performing.

My internship at the Royal Hobart Hospital is going very well so far. Every day, I’m immersed in a pool of valuable knowledge and feedback, and I feel more prepared for the end-of-year intern exam. If you’re considering pharmacy, I would suggest that you do research about the profession. Pharmacy is not for everyone, but for those passionate about it, pharmacy is truly rewarding. Further, seek a mentor, ask for help when you need it, and don’t just limit university life to university. Grades are not the only important thing; foster your communication, interpersonal, and organizational skills. These are the skills that will greatly increase your employability.”

**THOMAS DUONG**

Bachelor of Pharmacy (Hons) / Master of Pharmacy student and Pharmacy Intern at The Royal Hobart Hospital
HAVE AN INTERNATIONAL EXPERIENCE WHILST YOU STUDY

An international career
Margaret Louey currently works as a Senior Technical Manager, Product Development and Regulatory Affairs at Clinton Health Access Initiative (CHAI). CHAI is a non-profit organisation founded by US President Clinton in 2002 with the aim of helping save the lives of millions of people living with HIV/AIDS in the developing world. CHAI has now expanded its goals to include access to critical medicines and diagnostics for HIV/AIDS, TB, malaria and other diseases in low- and middle-income countries (LMICs).

After completing her Bachelor of Pharmacy degree at Monash University, Margaret worked in community and hospital pharmacies in London. She returned to Melbourne a couple of years later to do her honours and PhD at Monash.

To read more about Margaret’s journey, visit: monash.edu/pharm/alchemy-33/special-feature-pharmacy-gone-global/our-international-alumni/margaret-louey
Pharmacy is a global profession and we want you to experience that in your degree.

As part of our program, you can apply for exchange opportunities at our Malaysia campus. You can also apply to complete projects and elective placements in the US, the UK and a number of developing countries. We work closely with preferred partners at the University of North Carolina, University College London, and Work the World to ensure that our international activities are interesting and ethical.

All eligible Monash students who are accepted into an international program will receive some financial aid towards the cost of their experience.
I've done so many great things in this course. Last year I made an anti-epileptic drug from scratch. And the lecturers are so approachable. When you’re struggling with something, it’s amazing to be able to walk along the hall and knock on the door of someone who is one of the world-leading researchers in the area.”

JOMO KIGOTHO
Bachelor of Pharmaceutical Science student
A degree in pharmaceutical science will equip you for an exciting and diverse career, enabling you to make a genuine impact to human health and well-being. Your understanding of the powerful interplay between chemistry and biology will set you apart from the crowd.

You’ll be taught by internationally renowned scientists at the forefront of tackling global health challenges. From them you’ll learn what it takes to invent, develop and approve a new medicine to improve health outcomes around the world.

**Hands-on experience**
You’ll get lots of time in the lab, working with industry-standard research instrumentation. When you accept your first job offer after graduation, you’ll hit the ground running. And because the faculty has long standing relationships with employers in the sector, you’ll emerge armed with the skills employers are looking for.

**Use industry-standard instrumentation**
As well as gaining a deep understanding of the fundamental concepts in chemistry, biology and product formulation, you’ll learn how to design and conduct experiments using sophisticated instrumentation and, most importantly, how to interpret and effectively communicate your data.

**A future-proofed sector brimming with opportunity**
As the world continues to face a number of urgent health challenges, pharmaceutical scientists will play an important and central role in helping to solve these problems over the next decade and beyond. Victoria is the heart of Australia’s pharmaceutical sector, with its highly skilled and innovative workforce employing around 31,000 people. In 2016, Victoria exported about 47 per cent of Australia’s total pharmaceutical products worth just over $1.5 billion.

The upshot is that it’s a great time to be studying in this field. Globally, pharmaceuticals is a growth sector and — with many industries being majorly disrupted by technology – this future-proofed career path means that your skills will still be relevant in 20 years’ time.

**Victoria is a global hub for biomedical research, medical technology and pharmaceutical manufacturing**
With one of the world’s largest life science clusters, Victoria’s pharmaceutical industry is highly sought after on a global scale. According to the governments’ 2017 State of the Sector Medical Technologies and Pharmaceuticals report, Melbourne-based companies currently make up over 40% of all ASX-listed medtech and pharmaceutical firms in Australia. There’s a strong demand for graduates in Victoria, which will only increase as the sector grows.

**Course and career options**
A career in pharmaceutical sciences can take you in a number of exciting directions.

During the course, you’ll have the opportunity to align your interests with particular aspects of the drug discovery pipeline.

You might be attracted to drug discovery biology, which is about gaining an understanding of what causes different types of diseases and how current medicines work at a molecular level to treat them. You’ll get hands-on experience designing experiments to identify and test new biological targets for the development of novel drugs.

Or you might be drawn to medicinal chemistry, which represents the intersection of biology and chemistry, and involves the development of potential pharmaceutical compounds from conception through to their clinical use. You’ll study how drugs work, and how they’re designed and made. By applying the principles and techniques of organic chemistry, medicinal chemists discover and develop compounds that prevent, treat or cure disease.

There’s also formulation science, which enables you to understand the principles of designing pharmaceutical products and how medicines are absorbed and travel around the body to the site of action.

Drawing on techniques used in the pharmaceutical industry, you’ll also learn how to formulate chemical products in a wide range of applications, such as consumer products, cosmetics, paints and food.

**Three-year BPharmSci vs four-year BPharmSciAdvHons: what’s the difference?**
Some of our students want to complete their degree, get out there and start working.

For them, the three-year Bachelor of Pharmaceutical Science is the perfect pathway into a career in the pharmaceutical sector or any of its allied industries such as skincare, cosmetics, chemicals or even food manufacturing, just to name a few.

Other students find that their natural curiosity and passion to work on innovative research attracts them to a degree with a significant research component. For those students, the Bachelor of Pharmaceutical Science Advanced (Honours) is ideal. The third year of the degree includes an extended placement in either research or industry, which will give you the skills and independence to conduct a substantial research project in your fourth (honours) year.

Upon completion of an honours year, students are eligible to apply for a PhD.
# Bachelor of Pharmaceutical Science (3 Years)

## Year 1

### Semester 1
- **BPS1011** Human physiology I: Cells to systems
- **BPS1021** Medicinal chemistry I: Structure
- **BPS1031** Physical chemistry I: Equilibria and change
- **BPS1041** Scientific Inquiry

### Semester 2
- **BPS1012** Human physiology II: Body systems
- **BPS1022** Medicinal chemistry II: Reactivity and biomolecules
- **BPS1032** Physical chemistry II: Solutions, surfaces and solids
- **BPS1042** Pharmaceutical science in context

## Year 2

### Semester 1
- **BPS2011** Pharmacology I: Biochemical signalling
- **BPS2021** Synthetic chemistry I: Structure and reactivity
- **BPS2031** Analytical methods I: Principles and applications
- **BPS2041** Drug delivery: Absorption pathways

### Semester 2
- **BPS2012** Pharmacology II: Drug action
- **BPS2022** Drug discovery and design
- **BPS2032** Analytical methods II: Investigation design
- **BPS2042** Drug development

## Year 3

### Semester 1
- Elective unit – Choose four units from the following six:
  - **BPS3011** Disease-focused pharmacology
  - **BPS3021** Biotechnology
  - **BPS3031** Computational drug design
  - **BPS3041** Synthetic chemistry II: Advanced methods
  - **BPS3051** Pharmaceutical product development
  - **BPS3061** Industrial formulation – co-req

### Semester 2
- **BPS3012** Applied pharmaceutical science: from concept to market
- Elective unit – Choose two units from the following four:
  - **BPS3022** Microbiology and immunology
  - **BPS3032** Toxicology and advanced pharmacology
  - **BPS3042** Advanced experimental spectroscopy
  - **BPS3052** Applied pharmacokinetics/dynamics and nanotechnology
- **BPS3062** Professional experience

## Bachelor of Pharmaceutical Science Advanced Honours Year

An Honours year gives you a taste of a research career and enhances your job prospects upon graduation. The Bachelor of Pharmaceutical Science Advanced (Honours) contains a Year 4, shown below.

### Year 4

- **BPS4001** - Advanced Pharmaceutical Science (coursework) — 12 points
- **BPS4002** - Research in Pharmaceutical Science — 36 points

If you want details about what you’ll be specifically learning in each of your units, you’ll find them in our online handbook: [handbook.monash.edu](http://handbook.monash.edu)
Combining chemical engineering with pharmaceutical science, this double degree is unique in Australia and rare worldwide.

Not only will you learn how to invent and test new products such as pharmaceuticals, food and cosmetics, but you will have the know-how to manage the product process beyond the laboratory stage.

This double degree allows you to graduate as a qualified engineer capable of covering the full spectrum of the pharmaceutical product design and production process.

Pharmaceutical engineers work in all aspects of the design and production process, from experimenting with innovative formulations to manufacturing commercialised products. A pharmaceutical engineer might:

- design, develop and improve industrial processes and equipment for large scale chemical and pharmaceutical manufacturing
- plan and test methods of manufacturing
- devise production processes that are safe, efficient, profitable and environmentally sound
- develop and implement cleaner production technologies.

*DID YOU KNOW?*

Bachelor of Pharmaceutical Science/Bachelor of Engineering (Honours) is taught between two Monash campuses – Parkville and Clayton. You’ll study Year 1 and 3 at Parkville, and Years 2, 4 and 5 at Clayton.
CAREERS IN PHARMACEUTICAL SCIENCE

The course material sounds fascinating, all that time using high-tech lab equipment seems really fun, and the internship opportunities mean you’ll graduate ready for the workforce. So what exactly does a pharmaceutical scientist do?

That’s a trickier question to answer than you might think. Although the course is primarily focused on understanding medicines, the skills you learn will translate to a range of chemistry-related or biomedical research opportunities. Our graduates can be found in industries from paint and coatings to cosmetics to food manufacturing.

Here are some of our more common graduate destinations.

BIOMEDICAL RESEARCHER
Biomedical researchers investigate how the human body works with the aim of finding new ways to improve health. Usually based in a laboratory, you’ll conduct experiments and clinical tests to record and report on the findings.

In general, biomedical researchers within a university focus on improving tools and techniques, studying biological processes and the causes and progression of diseases. Private sector labs develop high value products that generate considerable income for the company.

CLINICAL RESEARCH ASSOCIATE
As a clinical research associate you’ll use your experience in running experiments, gathering data and documenting the results during clinical trials. Typical employers for this role include clinical research organisations, pharmaceutical and biotechnology companies and even hospitals and universities. There is growing demand for this role in Australia, as we are one of the leading countries for phase one clinical trials.

FORENSIC SCIENTIST
Forensic science is the application of scientific techniques to help investigate crimes, accidents and other incidents. It’s not always like what you see on your favourite crime investigation TV shows, but can entail tasks such as analysing illicit drugs or suspect situations.

Ensuring quality medicines
Jeremy Shonberg works for the Therapeutic Goods Administration as a pharmaceutical evaluator. He was originally drawn to medicinal chemistry as it involves a lot of problem solving and can deliver interesting results and great benefits in terms of drug design.

With both a bachelor’s and a PhD from Monash, Jeremy’s current role involves evaluating the chemistry, manufacture, quality controls and bioavailability data supplied by pharmaceutical companies to support the products they submit for government approval.
INTERNATIONAL DEVELOPMENT OFFICER
For graduates with a desire to work in the social advancement field, one career path is to work with an International Non-Governmental Organization (INGO), like the World Health Organization (WHO).

With a goal to build a better, healthier future for people all over the world, WHO staff work side by side with governments and other partners to ensure the highest attainable level of health for all people.

MEDICINAL CHEMIST
Medicinal chemistry is an interdisciplinary science, drawing graduates from a range of different fields. A career in this area usually involves working on the development and testing of potentially therapeutic compounds. This might be within a company that is developing new products, for a research facility exploring new compounds, or at a regulatory agency testing pharmaceuticals for compliance.

PAINTS AND PROTECTIVE COATINGS SCIENTIST
Not all pharmaceutical science graduates go on to work with products for human consumption. Graduates can find a role working on the development of many of the products we come into daily contact with, such as paints, pigments and protective coatings.

These compounds are present in our living and working spaces, our clothing, our food packaging and many, many other products and environments. We’re exposed to them on a regular basis, so manufacturers must study them and be sure that they are safe.

PATENT ATTORNEY
To be successfully taken to market, new discoveries need to be commercialised and a company’s intellectual property protected. That’s where a patent attorney comes in.

A patent attorney will typically work for a specialist consultancy, advising a range of clients. A law degree is not required, but patent attorneys do need a deep understanding of relevant legislation, potentially across a number of different countries and regions.

PHARMACEUTICAL SALES PERSON
The best people for selling the benefits of a product are often those with the deepest understanding of how it works. For complex products developed and manufactured using pharmaceutical or chemical science, there is often a need for sales and marketing representatives able to talk with authority about the science behind the product.

This is a skill many graduates have and for some, sales and marketing can be their next step beyond the lab after working in research and development.

PRODUCT DEVELOPER/FORMULATION SCIENTIST
Product development scientists work in a variety of industries, including food, biotechnology, pharmaceutical science, and medical device manufacturing. They are typically based in the lab, developing new foods, drugs, and medical technologies or researching and developing ways to enhance existing products.

QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC) CHEMIST
These two areas in manufacturing are closely related, but they have important differences. Where QA is about ensuring that development and maintenance processes are adequate in order for a system to meet its objectives, QC is a set of activities designed to evaluate the developed products.

QA is a systems-based career, often focused on designing, implementing and managing new systems for the manufacturing process to ensure their quality.

A QC chemist is responsible for testing the products themselves. They prepare and test samples from all phases of a manufacturing or other handling process, with the goal of determining if the substance meets particular standards or requirements.

REGULATORY AFFAIRS ASSOCIATE
Regulatory affairs involves ensuring a company and its products meet government regulations. For companies producing new products, it’s a crucial discipline. A skilled regulatory affairs associate can be the difference an effective product reaching the market or not. Regulatory professionals are expected to know the ins and outs of the medical regulation, and to understand how changing regulations will impact their industry.

SKINCARE AND COSMETICS DEVELOPER
Youthful, clear skin is big business, with skin care and cosmetic companies around the world spending millions on researching and developing new products. There are plenty of opportunities in this fast-moving industry, with competing companies striving for the next breakthrough that will give them the edge.

It’s not just big name international cosmetic brands that offer employment though. Many smaller companies exist in the field and it’s ripe for entrepreneurs.

The beauty of pharmaceutical sciences
At the end of 2020 Georgie graduated from the Bachelor of Pharmaceutical Sciences, an area she chose to pursue after watching the movie Contagion.

In the end, Georgie chose not to tackle the spread of a deadly virus and is now immersed in the wonderful world of cosmetics, whilst lapping up the warm weather on the Sunshine Coast where the company she works for is based. Skincare and cosmetics are a booming business, and for pharmaceutical science graduates interested in this field there are plenty of opportunities.

"When I was a student I loved being in the lab because it’s so hands on and satisfying when it leads to a result. That’s why I enjoy cosmetics – it’s all about working towards a final product and getting that product out into the world within a set timeframe."

GEORGIE PERCIVAL
Production and New Product Development Scientist, Milkman Grooming Co
### 2022 International Entry Requirements

#### Pharmaceutical Science

<table>
<thead>
<tr>
<th>Duration (years)</th>
<th>3</th>
<th>4</th>
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<th>5</th>
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<td>Monash code</td>
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<td>P3002</td>
<td>P3002</td>
<td>E3008</td>
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<td>P6001</td>
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<td>PA</td>
<td>PA</td>
<td>CL1</td>
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<td>Intake (semester)</td>
<td>Feb</td>
<td>Feb</td>
<td>Feb</td>
<td>Feb</td>
<td>Feb</td>
<td>Feb</td>
</tr>
</tbody>
</table>

#### Pharmacy

VCE: Units 3 and 4: a study score of at least 27 in English (EAL) or 25 in English other than EAL.

IB: At least 4 in one of the following SL subjects:

- English A: Literature
- English A: Language and Literature
- Literature and Performance, OR
- At least 3 in one of the following HL subjects:
  - English A: Literature
  - English A: Language and Literature, OR
  - At least 5 in one of the following SL subjects:
  - English AB
  - English B, OR

Other qualifications: English (Australian Year 12 equivalent)

English proficiency test:

- IELTS (Academic): 6.5 overall (no band lower than 6.0) (or equivalent approved English proficiency test)

Chemistry

VCE: Units 3 and 4: a study score of at least 25 in Chemistry.

IB: At least 4 at Standard Level (SL) or 3 at Higher Level (HL) Chemistry

Other qualifications: Chemistry (Australian Year 12 equivalent)

Mathematics

VCE: Units 3 and 4: a study score of at least 25 in one of Mathematical Methods (any) or Specialist Mathematics.

IB: At least 4 in one of the following SL subjects:

- Mathematics, OR
- Mathematics: Analysis and Approaches, OR
- At least 3 in one of the following HL subjects:
  - Mathematics: Applications and Interpretations, OR
  - Mathematics, OR
  - Further Mathematics, OR
  - Mathematics: Analysis and Approaches.

Other qualifications: Higher level mathematics (Australian Year 12 equivalent)

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Entry Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>28</td>
</tr>
<tr>
<td>Advanced Placement (AP)</td>
<td>7</td>
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<tr>
<td>All India Senior School Certificate</td>
<td>78.50%</td>
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<tr>
<td>2022 ATAR for International Students (Australian Year 12)</td>
<td>82.50</td>
</tr>
<tr>
<td>GCE A Level</td>
<td>9.5</td>
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<tr>
<td>Hong Kong Diploma of Secondary Education</td>
<td>18</td>
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<tr>
<td>Indian School Certificate Examination</td>
<td>72.50%</td>
</tr>
<tr>
<td>International Baccalaureate (IB) Diploma</td>
<td>29</td>
</tr>
<tr>
<td>Monash University Foundation Year (commencing MUFY in 2022)</td>
<td>72.50%</td>
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<td>Ontario Secondary School Diploma – Grade 12, Canada</td>
<td>83.20%</td>
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<td>High School Diploma, Vietnam</td>
<td>8.35</td>
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<td>SAT (Scholastic Aptitude Test) (Total Score out of 1600)</td>
<td>1220</td>
</tr>
<tr>
<td>SMA3, Indonesia - 10-point scale (6 pass)</td>
<td>8.4</td>
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<td>STPM, Malaysia</td>
<td>8.8</td>
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<tr>
<td>UEC, Malaysia</td>
<td>3.8</td>
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<tr>
<td>UNSW Foundation Studies</td>
<td>7.75</td>
</tr>
<tr>
<td>University of Melbourne Trinity College Foundation Studies</td>
<td>78%</td>
</tr>
</tbody>
</table>

1. Pharmaceutical Science subjects will be taken at Parkville campus.
2. For information on how to calculate your entry score for the listed qualifications, refer to page 84 - 89 of the 2022 international undergraduate course guide located at: monash.edu/study/why-choose-monash/information-for-schools-and-teachers/publications
PATHWAYS

If you didn’t meet our course requirements at the end of high school, we offer a number of pathway options. You may be able to move into either Pharmacy or Pharmaceutical Sciences after completing the first year in another degree if you achieve a minimum 70% GPA and meet course prerequisites. Monash College Foundation Year, detailed on the next page, is also a popular pathway.

SCHOLARSHIPS AND STUDY GRANTS

Study grants may be available for commencing international students living offshore. This grant will be applied as a fee discount.

A number of scholarships are available to international students. Visit monash.edu/scholarships, select ‘I’m an international student’ and search by faculty.
Monash University Foundation Year is a pre-university program that helps you develop academic and English skills to the level expected of first-year Pharmacy and Pharmaceutical Science students, providing you with an easier transition to Monash University.

Even if you don’t have our subject prerequisites of English, Chemistry and Maths to the required standard, these can be made up during Foundation Year. And if you apply and are accepted into Monash College, you’ll receive a packaged offer to your preferred destination degree, conditional on achieving certain grades.

Monash University Foundation Year is offered in the following locations: Melbourne CBD, Indonesia, Malaysia, Sri Lanka, China. January and July intakes are available.

Visit monashcollege.edu.au/study-areas/pharmacy-and-pharmaceutical-sciences

Monash College also offers a number of English courses to help prepare you for your future studies. For further information, visit monashcollege.edu.au/courses/english

CRICOS: Standard 071178G

Intensive 071180C

Extended 072824G

Visit monashcollege.edu.au/foundation-year
Head to our youtube channel to view a ton of interesting videos about our courses, research and career outcomes.

JOIN US AT OUR 2021 OPEN DAY
To register: monash.edu/open-day