



Curtin University

2019 **POSTGRADUATE**  
COURSE GUIDE

# PHARMACY

COURSEWORK AND RESEARCH DEGREES

Make tomorrow better.



[healthsciences.curtin.edu.au](http://healthsciences.curtin.edu.au)



# PHARMACY AT CURTIN

Curtin has a proud 50-year history of providing excellence and innovation in pharmacy teaching and research.

With the support of experienced and dedicated teaching staff and modern facilities, we help aspiring pharmacists and researchers to develop knowledge, skills and attributes that are highly valued by national and international employers.

## FACILITIES

### MODEL PHARMACY

As a Master of Pharmacy student, you can train in a multi-million dollar model pharmacy dispensary, which can simulate a range of real-life settings such as a community pharmacy. You will be allocated your own workstation, computer and label generator, and have the chance to dispense real medicines using simulated prescriptions. Take a virtual tour: [curtin.edu/pharm-biomed-facilities](http://curtin.edu/pharm-biomed-facilities)

### ROBOTIC DISPENSING SYSTEM

Master of Pharmacy students will gain a competitive edge using a state-of-the-art robotic dispensing unit – the only one of its kind being used for training purposes in Western Australia. The robot can improve the speed and risk management involved with dispensing medications, and also provides greater stock management efficiencies.

### LABORATORY AND COMPUTER FACILITIES

As a research student, you will have access to exclusive computer facilities, as well as specialist laboratories and equipment.



*"I have a bachelor degree in pharmacology, microbiology and immunology, but having a postgraduate degree in a related field greatly improves your employment opportunities.*

*Pharmacy appealed to me due to its close personal interaction with the community and the ability to help people on a daily basis. I chose Curtin to pursue a Master of Pharmacy because I felt it had a stronger program compared to other universities and a more student-friendly campus.*

*My clinical placement at Rowethorpe, an aged care facility in Bentley, was the most rewarding part of the course. It truly exemplified to me how useful my study was and how I can make a significant change to someone's quality of life through simple pharmacy-related interventions."*

Joshua Cathcart  
Master of Pharmacy



Ranked in the top one per cent of universities worldwide in the Academic Ranking of World Universities 2017.



#3 in the Asia Pacific in the Nature Index 2016 Rising Stars supplement.



An international university, with campuses in Dubai, Malaysia, Singapore and Western Australia.

## WHY STUDY A POSTGRADUATE DEGREE AT CURTIN?

### ACCESS NEW KNOWLEDGE AND DISCOVERIES

A Curtin health sciences degree can give you access to the latest knowledge and discoveries to help you improve the standard of healthcare in Australia and make a real difference to people's lives, locally and globally.

### MOVE UP THE CAREER LADDER

A postgraduate course can add new or specialist skills and knowledge to your repertoire. Our postgraduate coursework and research programs are diverse, ranging from life sciences and clinical sciences to population health sciences.

### CHANGE YOUR CAREER

A graduate entry master degree can give you the right skills to change careers.

### GET AN EDGE IN THE JOB MARKET

A higher degree by research (Master of Philosophy or Doctor of Philosophy) provides high-level thinking and problem-solving skills that are valued by industry, government organisations and academia.

A postgraduate qualification may also help you stand out from other candidates in an increasingly competitive job market.

### PROFESSIONALLY RECOGNISED

Many of our courses are accredited nationally and are internationally recognised, allowing you to potentially work in a number of countries around the world when you graduate.

The relevant professional registration board can advise whether your qualification is recognised overseas.

## GRADUATE ENTRY FOUNDATION COURSE

This course is for students who want to start a career in health, but have a degree in a different field. The enabling course allows domestic students who have completed their undergraduate degree in a different field to complete the essential prerequisite undergraduate-level units for application to our graduate entry master courses.

You may select prerequisite units that you need to become eligible to apply for a postgraduate program. You can study a maximum of four units.

Completion of this enabling course may allow entry to:

- Master of Occupational Therapy
- Master of Nursing Practice
- Master of Pharmacy
- Master of Physiotherapy
- Master of Speech Pathology.

**Please note:** entry to these master courses is competitive and a strong course weighted average is required.

[courses.curtin.edu.au](http://courses.curtin.edu.au)



## PHARMACY INDUSTRY SNAPSHOT

The role of community pharmacies and community pharmacists is changing. It is predicted that their role in primary healthcare will increase, prompted by a need to better respond to skills shortages and to provide greater access to healthcare in the context of an ageing population and rising levels of chronic morbidity.

Community pharmacies are already carrying out some of these newer responsibilities, including the better use of medications through improved patient compliance and medication management reviews. Other responsibilities involve managing chronic conditions, such as type 2 diabetes and asthma, and providing testing services.

Australian and international developments in pharmacy services suggest pharmacists might contribute to new areas of primary healthcare. New services that may increase the demand for pharmacists include vaccination, blood testing for hepatitis and treating minor ailments, as well as testing blood pressure, glucose, cholesterol and other health indicators.

In 2017, there were 27,544 registered pharmacists in Australia. Of these, 61.9 per cent were female. The top employment industries for pharmacists were retail trade, healthcare and social assistance, manufacturing and other industries.

Text taken from [pharmacyboard.gov.au](http://pharmacyboard.gov.au); [joboutlook.gov.au](http://joboutlook.gov.au)

## Disclaimer

Information in this publication is correct as at December 2017 but may be subject to change.

In particular, the University reserves the right to change the content and/or method of assessment, to change or alter tuition fees of any unit of study, to withdraw any unit of study or program which it offers, to impose limitations on enrolment in any unit or program, and/or to vary arrangements for any program. This material does not purport to constitute legal or professional advice. Curtin accepts no responsibility for and makes no representations, whether express or implied, as to the accuracy or reliability in any respect of any material in this publication. Except to the extent mandated otherwise by legislation, Curtin University does not accept responsibility for the consequences of any reliance which may be placed on this material by any person.

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## International students

International students studying in Australia on a student visa can only study full-time and there are also specific entry requirements that must be met. As some information contained in this publication may not be applicable to international students, see [international.curtin.edu.au](http://international.curtin.edu.au) for further information. Australian citizens, permanent residents and international students studying outside Australia may have the choice of full-time, part-time and external study, depending on course availability and in-country requirements.

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## MASTER OF PHARMACY

This graduate entry master course enables science graduates to become a pre-registered pharmacist. It will provide you with a comprehensive theoretical base, including chemical, biological, physiological, pharmaceutical and pharmacotherapeutics studies.

In this course you'll complete two semesters each year and two additional study periods each summer. The first study period is an intensive six-week training program involving continuous assessment. In this period you'll be introduced to important concepts in pharmaceutical chemistry and pharmacy practice.

The rest of your first year will focus on pharmaceutical science, pharmaceutical biology, pharmacology, therapeutics and pharmacy practice including developing research skills. At the start of your second year you'll complete a community pharmacy placement under the supervision of a practising pharmacist to develop skills in the clinical setting.

In your second year, you'll continue to focus on pharmacology and therapeutics and further develop your research skills. You'll also complete a hospital placement to cement your practical skills.

Throughout the course you will have access to innovative laboratories and facilities that are designed to enhance your learning and provide you with essential practical skills. The laboratories include a model dispensary, manufacturing laboratory, asepsis suite and contemporary compounding facilities.

### COURSE ESSENTIALS

CRICOS CODE	INTAKE	DURATION
068621J	Jan	2 years full-time
LOCATION	STUDY MODE	
Perth	Full-time	

Some lectures in this course may be attended by both undergraduate and postgraduate students.

This course has an earlier application deadline: [curtin.edu/application-deadlines](http://curtin.edu/application-deadlines)

### ADMISSION CRITERIA

A relevant bachelor degree or higher and a history of above-average grades. The bachelor degree may be an international qualification in pharmacy assessed by the Australian Pharmacy Council as equivalent to an Australian Bachelor of Pharmacy OR must include evidence of the following five prerequisites: Mathematics (Advanced Mathematics at senior secondary school level is also acceptable) or Physics AND Statistics or Research Methods with evidence of a Statistics component or Epidemiology AND Chemistry AND Biochemistry AND Physiology or Pathophysiology or a related discipline.

You will also be required to provide supplementary information with your application. For more information, visit [curtin.edu/hs-admission-requirements](http://curtin.edu/hs-admission-requirements)

### ENGLISH LANGUAGE PROFICIENCY

This course requires a higher level of English language proficiency: IELTS (Academic) overall band of 7.0 with a minimum of 7.0 in each band (or equivalent English test).

### ADDITIONAL REQUIREMENTS

Master of Pharmacy students are registered through the Australian Health Practitioner Regulation Agency (AHPRA). The University must also notify AHPRA if they believe a student on clinical placement may place members of the public at risk as a result of an impairment or criminal history.

Upon graduation, Master of Pharmacy students who intend to practise as a pharmacist in Australia must complete 12 months of supervised practice and pass the Pharmacy Board of Australia's registration examination in order to become a registered pharmacist.

### PROFESSIONAL RECOGNITION

This course is accredited by the Australian Pharmacy Council.

Graduates are required to complete a pre-registration training period and register as a pharmacist before being able to commence practice in most areas of the profession. Graduates are able to register to practise in all states and territories in Australia and New Zealand.

This course provides a great stepping stone to registration in countries throughout Asia, in the UK and the Republic of Ireland. Some countries may require fulfilment of additional practical training programs.



## RESEARCH DEGREES

Curtin is committed to research excellence and innovation in pharmacy through collaborative links with other research institutions, the pharmaceutical and biotechnology industries, healthcare providers and government. Our staff are research experts with experience in key areas of the pharmaceutical, biological and clinical sciences, as well as the professional practice of pharmacy.

In the field of pharmaceutical science and medicinal chemistry we have expertise in the areas of:

- skin drug delivery
- nano drug delivery
- natural product drug development
- peptide drug delivery
- synthetic medicinal chemistry
- drug discovery for treatment of chronic conditions.

Pharmacology and pharmaceutical biology research includes the areas of:

- experimental cancer therapeutics
- infection and immunity
- pharmacology of drug transport proteins
- pharmacokinetics and pharmacodynamics
- biometals.

Clinical and professional practice and pharmacy education research is currently focused on:

- community pharmacy practice
- hospital pharmacy practice
- quality use of medicines and drug safety
- technologies in health
- pharmacy education.

We offer the following pharmacy postgraduate research courses:

- Master of Philosophy (MPhil) in Pharmacy
- Doctor of Philosophy (PhD) in Pharmacy.

### RESEARCHER TAKES ON 'SILENT KILLER'

Every day, four Australian women are diagnosed with ovarian cancer and three Australian women die from it. Ovarian cancer is often called the 'silent killer' as symptoms are often not detected until the cancer has developed to an advanced stage and spread to other parts of the body.

Symptoms of ovarian cancer can include fatigue, persistent abdominal bloating, appetite loss and indigestion. Treatment options for ovarian cancer include chemotherapy and/or surgery.

Dr Yu Yu is a Curtin Research Fellow who is examining the occurrence of tumours that can develop after treatment for ovarian cancer. These recurring tumours have a different molecular structure to the initial cancer, and are often resistant to traditional treatment.

"Ovarian cancer is the leading cause of gynaecologic cancer-related deaths in Australia. The vast majority of ovarian cancer cases are diagnosed at advanced stages, with the five-year survival rates of stage III and stage IV diseases at approximately 39 per cent and 17 per cent respectively," Dr Yu says.

"One of the reasons for these dismal survival rates is the development of recurrent cancers after standard care regimen, which includes surgery and chemotherapy. A lack of understanding about tumour drug-resistance-mechanisms complicates the problem, and results in the limited development of new therapy.

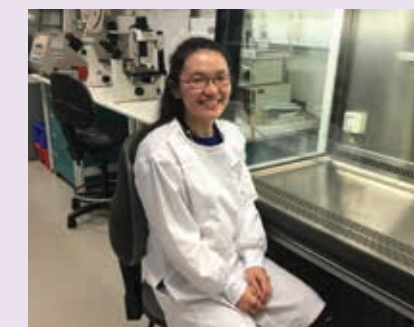
"High grade serous ovarian carcinoma, the most common subtype of ovarian cancer, is an example where chemotherapy resistance and recurrent tumours affect a

high proportion of patients. Additionally, recurrent tumours have a different molecular makeup to the initial tumours because of their adaptation to the previous chemotherapeutic treatments, and are generally less responsive to conventional chemotherapeutics.

"In the current treatment regimen, there are limited tools to recognise tumours that will recur, and how to treat them effectively. My research focuses on understanding the sciences of refractory and recurrent tumours, with the ultimate goal of developing better biological markers and therapeutics."

Dr Yu will investigate therapeutic strategy to treat recurrent tumours by examining Spleen Tyrosine Kinase (SYK), an enzyme that modifies other proteins by phosphorylation, and results in a functional change of the target protein.

"Our previous study suggested that SYK plays a key role in driving ovarian tumour recurrence, and its inhibition can improve response to some types of chemotherapy. This project aims to broaden our understanding of recurrent ovarian cancer and create new targeted treatment."







## FEE INFORMATION

### DOMESTIC STUDENTS

#### TUITION FEES

Your tuition fee is calculated and charged on a semester basis.

Indicative course fees for the 2018 commencement year are available at [courses.curtin.edu.au](https://courses.curtin.edu.au). Indicative course fees for the 2019 commencement year will be available from September 2018.

For more information on individual unit (subject) fees, visit [fees.curtin.edu.au/course\\_fees.cfm](https://fees.curtin.edu.au/course_fees.cfm)

#### STUDENT SERVICES AND AMENITIES FEE

Your Student Services and Amenities Fee (SSAF) supports a range of non-academic services and amenities at Curtin. For information on the cost and services covered by the SSAF, visit [fees.curtin.edu.au/amenities.cfm](https://fees.curtin.edu.au/amenities.cfm)

### INTERNATIONAL STUDENTS

Tuition fees are based on a normal full-time workload of 100 credits per semester (200 credits per year) unless otherwise stated. If you study more than 100 credits per semester, you will have a higher annual tuition fee. The tuition fee is calculated in Australian dollars and is charged on a semester basis. Course and individual unit (subject) fees are listed at [fees.curtin.edu.au/course\\_fees.cfm](https://fees.curtin.edu.au/course_fees.cfm)

Please note: all listed fees are subject to annual increases.

### COMMONWEALTH SUPPORTED PLACE

A number of our postgraduate Health Sciences courses are commonwealth supported. A Commonwealth Supported Place (CSP) is subsidised by the Australian Government and is available to Australian and New Zealand applicants only. For more information about CSPs and whether you are eligible, visit [studyassist.gov.au](https://studyassist.gov.au)

### EMPLOYER-PAID STUDY

Your employer may be able to help you with the cost of postgraduate study. Many employers have developed formal employee education assistance policies in which education costs may be shared.

### OFFER LETTER (100 CREDITS) FEE

As an international student, you need to pay the fees for your first study period (one semester or 100 credits) before arriving in Australia in order to receive a confirmation of enrolment. The fee quoted on the international offer letter is only an approximation and may differ slightly in accordance with the units you choose to study upon your enrolment.

### INDICATIVE ESSENTIAL INCIDENTAL FEES

Some courses require compulsory additional payment for retainable materials and course-related fees, known as essential incidental fees.

### FEE-HELP

If you are an Australian citizen or hold a permanent humanitarian visa, you have the option of applying for FEE-HELP – a loan to help pay for part or all of your tuition fees. For more information, visit [fees.curtin.edu.au/feeHELP.cfm](https://fees.curtin.edu.au/feeHELP.cfm)

### TAX BENEFITS

You may be entitled to an income tax deduction for tuition fees and related expenses, if there is a direct connection between your course and your current work. For more information, please consult the Australian Tax Office at [ato.gov.au](https://ato.gov.au)

Some individual units may have optional fees for course materials and other course-related items.

### REFUND AGREEMENT

The categories under which the University Fees Centre will assess an application for refund are laid out in the University's International Student Refund Agreement. The agreement is supplied to you with your Letter of Offer and can also be accessed online at [fees.curtin.edu.au/refunds.cfm](https://fees.curtin.edu.au/refunds.cfm), where you can also view the most up-to-date information as the policy is subject to change.



## HOW TO APPLY AND SCHOLARSHIPS

### COURSEWORK DEGREES

To make applying to Curtin as easy as possible, we have put together online guides and services to help you.

#### DOMESTIC STUDENTS

You are a domestic student if you are:

- an Australian citizen or Australian dual citizen
- a permanent resident of Australia
- a holder of an Australian permanent humanitarian visa
- a New Zealand citizen.

To apply now or for more information, visit [curtin.edu/pg-apply](https://curtin.edu/pg-apply)

#### INTERNATIONAL STUDENTS

You are an international student if you are required to hold a student visa to study in Australia. This includes temporary residents, and non-residents of Australia and New Zealand.

To apply now and for more information, visit [curtin.edu/int-apply](https://curtin.edu/int-apply)

#### RESEARCH STUDENTS

To find a thesis supervisor and for information on how to apply for both domestic and international students, visit: [howtoapply.curtin.edu.au/research](https://howtoapply.curtin.edu.au/research)

Alternatively, you can contact our Graduate Research School for more information:

Tel: +61 8 9266 3337  
Email: [GRS.FutureStudents@curtin.edu.au](mailto:GRS.FutureStudents@curtin.edu.au)  
Web: [curtin.edu/postgrad-research](https://curtin.edu/postgrad-research)

### ENGLISH LANGUAGE PROFICIENCY

Curtin requires all students to demonstrate proficiency in English. You will meet the English language proficiency requirements by demonstrated completion of at least one year full-time of an undergraduate or postgraduate coursework degree at recognised universities in Canada, New Zealand, Republic of Ireland, Singapore, South Africa, United Kingdom or United States of America.

Alternatively, you can demonstrate your English language proficiency via other tests, such as the International English Language Testing System (IELTS) or Test of English as a Foreign Language (TOEFL).

For further information on postgraduate English language proficiency requirements, visit [curtin.edu/pg-english](https://curtin.edu/pg-english)

### ADDITIONAL REQUIREMENTS

Health sciences students who will be working with children aged from newborn to 17 need to have a Working With Children Check. Your course coordinator will advise you when this is required. Courses that include supervised practice in a clinical setting require screening for and vaccination against a range of infectious diseases before beginning placement. A recognised first aid certificate and a criminal record screening are also necessary.

[curtin.edu/hs-fieldwork-requirements](https://curtin.edu/hs-fieldwork-requirements)

### SCHOLARSHIPS

You may be able to apply for a scholarship to support your study. To find out more and sign up to the scholarships email alert, visit [scholarships.curtin.edu.au](https://scholarships.curtin.edu.au)



## CONTACT US

### CURTIN CONNECT

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