



澳門科技大學
MACAU UNIVERSITY OF SCIENCE AND TECHNOLOGY

藥學院

SCHOOL OF
PHARMACY



藥學院

School of Pharmacy

SP

澳

門科技大學藥學院創建於 2016 年，是澳門特區政府唯一認可開辦藥學學士學位課程以及藥學博士學位課程的藥學專門教育機構。本學院致力於培養臨床藥師、藥劑師和藥學專業人才，更好的服務澳門市民的健康需求，促進澳門醫院臨床合理用藥及管理、高水準藥物科學研究、以及醫藥產業發展等各方面的進步。

醫藥健康產業是澳門的一個傳統產業，醫藥健康服務更是與人民生活福祉密切相關。作為人民安全、合理、有效、經濟用藥的不可或缺的保障，藥師肩負著保證藥品質量和藥學服務質量的重要責任。近年隨著澳門人民對健康的日益重視，醫院臨床合理用藥及管理的更高要求，醫藥產業和高水準藥物科學研究的快速發展，對藥學專業人才產生大量需求。澳門科技大學全新開設的藥學學士學位課程以及藥學博士學位課程填補了澳門高校在藥學方面的空白，同時配合澳門社會經濟的長遠發展。

藥學學士課程及教育理念

藥學學士學位課程是結合歐美、香港、臺灣地區和中國內地藥學高等教育的辦學理念和經驗，充分結合澳門的實際情況和國際醫藥發展的趨勢，從而設計的優質完善教學計畫和課程，包括藥學基本知識理論、藥學實習和科研實踐，注重臨床藥學知識與實踐，以及最新的藥學專業前沿技術和知識的拓展，採用中英文教學，培養適合澳門特點和具有國際性事業拓展能力的新一代高級藥學專門人才。

藥學學士學位課程包括公共基礎課、藥學基礎理論課、藥學專業課、藥學相關選修課、藥學實習，以及藥房實習，完成必修科目 134 學分，選修科目 8 學分，通識教育科目 42 學分，共計 184 學分。藥學實習 IV，安排在第五學年進行。完成 184 學分及第五學年的畢業實習，並通過考核後則獲頒發藥學學士學位。

同學們在課程中將學習醫藥基礎知識，藥物生產及質量控制，臨床安全合理用藥，藥物法規，貿易和新藥研發的專業知識和技術，期間將安排學生前往澳門本地或者境外醫院藥房，社區藥房，製藥企業或者研究機構實習（也正在進一步探索與境外大學合作聯合培養的模式），並在國家重點實驗室進行科學研究。學院亦鼓勵學生參與大學的各種課餘活動及學生社團，培養學生的組織能力和社會實踐能力。



2019 年上海市“白玉蘭榮譽獎”

2019 PRESENTATION CEREMONY OF SHANGHAI “MAGNO

2019. 9. 29



▲ 藥學院積極參與新冠病毒研究 The School of Pharmacy actively participates in Novel Coronavirus research

藥學學士課程就業優勢

完成藥學學士學位課程的畢業生，可按有關法規規定申請成為本地註冊藥劑師，由衛生局依法進行學歷審查，符合各項學歷資格條件並通過專業資格考核者，可註冊為本地藥劑師或在醫藥企業從事藥物研發、藥物製劑、合成生產、藥品檢驗等工作，也可在醫藥貿易公司、政府醫藥相關部門或化驗所工作，還可就讀碩士、博士學位課程等進行深造等。

藥學博士學位課程及教育理念

本藥學博士學位課程是澳門地區首個藥學博士課程，為本澳及鄰近區域藥學類學士，碩士提供更多深造機會。本課程研究涉及面廣，涵蓋藥學領域多個方向，包括藥理學、藥物化學、藥物分析學、藥劑學等藥學專業知識。可以更好保證博士生的藥學廣泛知識與技能，適應科技的不斷進步與前沿交叉學科。本課程得到中醫藥質量研究國家重點實驗室大力支持，學生有機會操作實驗室的諸多高新技術設備，如超高相液相色譜串聯-固相萃取系統及在線超低温探頭核磁共振，多功能活細胞顯微成像系統，第三代基因測序儀和二次離子質譜等等世界最先進儀器。有助於學生完成高質量科研課題，與國際一流研究相接軌。並且採用英文教學，使學術研究與國際接軌，為澳門藥物產業的國際化和現代化提供專才。

具有藥學及相關專業碩士學位，通過澳門科技大學關於博士生入學的相關考試並考核合格者，可入讀本課程。課程正常修讀期限為 36 個月（直博生正

常修讀年限為 5 年）。科目修讀部份為 12 個月，專題研究和學位論文撰寫部份 24 個月。每位學生必須完成所有必修科目和任何 2 門選修科目的修讀，共需取得 12 學分。在修畢規定學分後每位學生需在入學 18 個月以內向學院遞交開題報告並獲得通過後，方可獲得博士候選人資格，隨後正式進入博士學位論文的研究工作。每位學生需在導師指導下進行系統、深入的科學研究，以培養獨立從事科學研究能力，完成有獨特見解並具有理論和實用價值的畢業論文。根據研究內容的需要，學生可能會被派往中國內地、香港或其他國家和地區的合作實驗室進行一定時間的合作研究或資料收集等。一般情況下，每位學生至少需在國際 SCI 英文期刊發表研究論文 2 篇，其中 1 篇必須為第 1 作者或共同第 1 作者，方可申請學位論文答辯。畢業論文和答辯為英文。通過學位論文答辯者，可按照澳門科技大學博士學位申請流程提出博士學位申請。

藥學博士學位課程就業優勢

藥學博士畢業生可在醫藥企業從事藥物研發、藥物製劑與劑型設計、合成生產、藥品檢驗、藥理實驗與安全評價、藥品管理、醫藥貿易等工作；從事臨床合理安全用藥指導、藥物臨床監控管理等工作；亦可在政府、研究所、化驗所工作或進入高校從事藥學相關的教學和研究工作。

學院師資

藥學院教研人員為 54 人，講座教授 4 人，教授 6 人，特聘教授 15 人（包括 5 名院士），副教授 17 人，助理教授 9 人，講師 3 人。大部份人員具有海外留學經歷，這些人員絕大多數同時也是中藥質量研究

▲ 藥學院朱依諤院長榮獲澳門科學技術獎之自然科學獎二等獎
Director of the School of pharmacy, Prof. Zhu Yi Zhun won the 2nd prize of Natural Science Awards of Macao Science and Technology Awards

◀ 朱依諱（左）獲上海市市長應勇接見和頒獎
Zhu Yizhun (left) greeted and awarded by
Shanghai Mayor Ying Yong

國家重點實驗室的研究人員，長期從事藥學或相關科學的研究和教學，是一支具備教授藥學課程所需知識和專業背景的高水準教學科研團隊。朱依諱講座教授為澳門科技大學藥學院首任院長（其加入澳門科技大學之前曾有復旦大學藥學院近 10 年作為院長的管理經驗。由朱教授曾經領導的復旦大學藥學院在 2016 年美國 U.S. News & World Report 世界最佳大學藥理學與毒理學專業排名位列世界第 18 名，中國第一名）。藥學院課程主任為謝瑩副教授。

在教學設施方面，藥學院現有多個專門的實驗室，包括化學實驗室，機能實驗室，形態實驗室，生化實驗室暨人體解剖學實驗室，儀器分析實驗室。現有儀器包括：穿透性測定儀、崩解儀、堆積密度測定儀、片劑硬度測定儀、旋光度測定儀、原子吸收分光光度計、紫外可見分光光度計、傅裡葉轉換紅外分光光度計、超高效液相色譜、系統電視生物顯微鏡、高級雙目顯微鏡等儀器，組織學和胚胎學模型以及生物機能實驗系統，承擔基礎化學、藥物基礎化學、分析化學、藥物分析、中藥化學、藥物化學、藥劑學、微生物免疫學、組織胚胎學、生理學、藥理學、病理學的教學實驗以及科研實踐。中藥質量研究國家重點實驗室現有藥劑學實驗室、藥物代謝動力學實驗室、分析化學及藥物化學實驗室、質譜中心和核磁共振中心等，均可用於藥學課程的教學。

藥學課程的科研專題實習依託本大學的中藥質量研究國家重點實驗室（詳見大學網頁中藥質量研究國家重點實驗室介紹）。該實驗室是我國中醫藥領域迄今唯一的國家重點實驗室，擁有中國工程院院士、高被引用科學家、講座教授、教授、副教授、助理教授等完整的學術梯隊，能為每位研究生配備高水準的導師小組。

發展規劃

學院將特別注重課程質量與特色，注重完善學生的知識結構和培養實際工作能力；大力發展研究生教育和學術研究，將人才培養與科學研究緊密相結合；鼓勵學生積極參加各種學術活動，包括大學常年開設的“科技大師講座”，使學生有機會聆聽中國科學院院士和中國工程院院士等眾多國內外著名學者分享其成功經驗與卓越成就，開闊視野及拓寬知識面；同時通過組織學生參與各種校內外研習活動和鼓勵學生參與海外交流計畫，與美國、葡萄牙、香港、中國內地等知名藥學院建立了合作關係，為學生海內外研習及畢業後於海內外就業提供更多選擇。藥學院為成就各位學子的理想，努力提供最佳的師資、最優越的條件、最有力的支援。



▲ 2019 院長優秀生榜 2019 Dean's honor list scholarship

Macau University of Science and Technology established school of pharmacy at year 2016. It is the only educational institution which can offer bachelor's degree and Doctor's degree in pharmacy with authorization from Macao SAR. Our faculty is dedicate to train clinical pharmacists and pharmaceutical professionals which can provide better service for Macao residents, promoting rational clinical drug use and to improve the drugs management level in hospital, high-end medical research as well as improving the development of pharmaceutical industry.

Pharmaceutical and healthcare industry is a traditional industry in Macao, medical and health services are essential well-being of people's daily life. As an indispensable guarantee for people's safety, reasonable, effective and economical use of drugs, pharmacists are highly responsible for ensuring the quality of drugs and the quality of pharmaceutical care. In recent years, the people of Macao have paid more and more attention to personal health, the rapid development of the pharmaceutical industry, the rational use of drugs and to improve the drugs management level in hospital as well as the high level of scientific research have a large demand for pharmaceutical professionals. Bachelor degree programme of pharmacy as well as Doctor degree programme of pharmacy holds by Macau University of science and technology filled the gaps and in the meanwhile complies with the long-term social and economic development of Macao.

Bachelor of Pharmacy and educational philosophy

Our teaching plan and curriculum is not only comprehensive but also quality. This programme is combined the ideas and experiences of pharmaceutical higher education institutions from Europe and the United States, Hong Kong, Taiwan and mainland China as well as the actual situation of Macao and the international development trend of medicine. This teaching plan includes the basic knowledge of pharmacy, pharmacy practice and research practice, focus on clinical pharmacy knowledge and practice, as well as the latest development of the frontier technology and knowledge of pharmacy. Both Chinese and English will be used in the class and students are trained to be the new generation of advanced pharmaceutical professionals with international business development capabilities and suitable for Macao society.

Bachelor of pharmacy programme includes public basic courses, basic theory courses of pharmacy, compulsory



▲ 綜合化學實驗室 General Laboratory for chemistry

academic courses of pharmacy and elective courses of pharmacy, pharmacy practice, and clerkship. Students have to take 134 credits of compulsory courses, 8 credits of elective courses, 42 credits of DGE courses, totally 185 credits. In the fifth year students have to take Pharmacy Practice IV. Bachelor's degree in pharmacy will be issued to the students who completed 184 credits and passed clerkship examination.

Students will learn the basic knowledge of medicine, pharmaceutical production and quality control, clinical safety and rational drug use, drug regulations, trade and professional knowledge and technology in new drug research and development. Students also will be arranged to local or oversea hospital pharmacy, community pharmacy, pharmaceutical companies or research institutions for internship (joint training with overseas universities is under discussion) and the State Key Laboratory for scientific researches. The faculty also encourages students to participate in various extracurricular activities and student associations, improving their organizational ability and social practice ability.

Employment

Graduates who complete a bachelor's degree in pharmacy may apply to be a local registered pharmacist in accordance with the relevant legislation. Students have to pass the professional qualification examination which is hold by Macau Health Bureau with strict academic qualifications screening. Besides, students may also choose to work in drug development, drug formulations, synthetic drug production, and inspection in various pharmaceutical enterprises, or work for medical trading company, pharmaceutical related government departments or laboratory. Moreover, students can peruse further studies, taking master or doctor degree programme.

Doctor of Philosophy in Pharmacy and educational philosophy

Ph.D. in Pharmacy is the first pharmacy doctoral program in Macao. It offers more undergraduate degrees in pharmacy and master's degrees in Macao and neighboring regions. This course covers a wide range of topics in the pharmaceutical field, including pharmacy, pharmacology, pharmacology, pharmacy and other pharmacy expertise. It can better guarantee the extensive knowledge and skills of doctoral students in pharmacy, adapt to the continuous advancement of science and technology and the frontier interdisciplinary.

課程 Program	修讀年期 Duration of Study (Year)	授課語言 Medium of Instruction
藥學博士 Doctor of Philosophy in Pharmacy	3	中 / 英 Chinese/English
藥學學士學位 Bachelor of pharmacy	5	中 / 英 Chinese/English



▲ 藥學院學生南京鼓樓醫院實習合影
Internship group photo at Nanjing Gulou Hospital

This course is strongly supported by the State Key Laboratory of Quality Research in Chinese Medicine. Students have the opportunity to operate many world's most advanced instruments in the laboratory, such as ultra-high-phase liquid chromatography tandem-solid phase extraction system and online ultra-low temperature probe nuclear magnetic resonance, multi-function living cells imaging systems, third-generation gene sequencers and secondary ion mass spectrometry. It helps students to complete high-quality scientific research projects and is in line with world-class research. And the use of English teaching, academic research and international standards, to provide expertise for the internationalization and modernization of the pharmaceutical industry in Macao.

According to the requirement of doctor degree programs in Macau University of Science and Technology, master degree in Pharmacy of Chinese Medicines, Pharmacy, or related disciplines are required for application of this program. The normal study period of Doctor of Philosophy in Pharmacy program is 36 months. The normal study period for the bachelor-straight-to-doctorate student is 5 years. The duration for taking all courses is 12 months and the duration of dissertation composition is 24 months. Students are required to complete two core courses and two elective courses during their study period to gain 12 credits. Students can only submit his/her dissertation proposal for confirmation upon the completion of the aforementioned 12 credits, within the first 18 months after admission. The overall process should follow the dissertation composition flow established by the faculty. Each student systematically and comprehensively conducts scientific research on pharmacy under the guidance of his or her supervisor. Also they have to develop the ability to conduct research independently, and write a complete and well-thought thesis with both theory and practical value. Based on the need of the research content, student may have to go to the partner laboratory in Mainland China, Hong Kong or other countries or regions to conduct research or collect data. In order to achieve the minimum requirement for applying oral defense for graduation, each student have to publish at least two SCI-E papers (First author or co-first author in at least one paper). The doctoral thesis must be written in English, and the thesis defense must be in English. Application for special language needs to be submitted to the instructor and the college.

Employment

Graduates who complete a doctor may work in drug development, pharmaceutical preparation and dosage form design, synthetic drug production, inspection in various pharmaceutical enterprises, pharmacological experiments and safety evaluation, drug management, pharmaceutical trade. Besides, students may also choose to work in clinical rational and safe drug guidance, drug clinical monitoring and management. Moreover, students can also work in the pharmaceutical related government departments, research institutes, laboratories or universities to do pharmacy-related teaching and research.

Academic staff

Our faculty has 54 academic staffs, including 4 chair professor, 6 professors, 15 Distinguished Professors (including 4 academicians), 17 associate professors, 9 assistant professors and 3 lecturer. Most of them have the experience of studying abroad and the vast majority of them are also researchers at the State Key Laboratory of Quality Research in Chinese Medicines. This team has been teaching in pharmacy related subjects for a long time, it is a high level team with professional background and necessary knowledge. Chair professor Zhu Yizhun is the first director of school of pharmacy (Professor Zhu Yizhun has been the dean of Fudan university faculty of pharmacy for the last 10 years. In year 2016 Professor Zhu led the Fudan University School of pharmacy ranked eighteenth in the United States News World & Report world's best university - pharmacology and toxicology and China's first). Associate professors Xie Ying is the programme director of school of pharmacy.

In terms of teaching facilities, the faculty has a number of specialized laboratories, including chemical laboratory, functional laboratory, morphological laboratory, biochemical laboratory and human anatomy laboratory, instrumental analysis laboratory. Instruments including: penetration tester, disintegration apparatus, bulk density tester, hardness tester, optical tablet tester, atomic absorption spectrophotometer, UV visible spectrophotometer, Fu Liye transform infrared spectrophotometer, ultra performance liquid chromatography, electric optic biological microscope system, histology and embryology model and Biological function experiment system. These instruments will be used for experimental teaching and scientific research and practice in courses including basic chemistry, analytical chemistry, pharmaceutical basic chemistry, pharmaceutical analysis, TCM chemistry, pharmaceutical

chemistry, pharmacy, microbiology and immunology, histology and embryology, physiology, pharmacology, pathology. Moreover, pharmacy laboratory, drug metabolism dynamics laboratory, the analysis of chemical and pharmaceutical chemistry laboratory, center of mass spectrometry and NMR Centre which are belongs to the State Key Laboratory of Quality Research in Chinese Medicines can also be used for teaching.

The scientific researches of pharmacy course rely on State Key Laboratory of Quality Research in Chinese Medicines. So far this laboratory is the only State Key Laboratory in the field of traditional Chinese Medicine. It has academicians of Chinese Academy of Engineering, Highly Cited Scholars, chair professors, professors, associate professors, assistant professors. With this complete academic echelon every graduate student can have a high standard tutor group.

<http://www.must.edu.mo/en/skl/about-the-institute> (State Key Laboratory of Quality Research in Chinese Medicines)

Development plan

The faculty pays special attention to the quality and characteristics of the curriculum, focus on improving the students' knowledge structure and the ability of practical work; Put priority on the development of graduate education and academic research. The integration of laboratory teaching and scientific research helps improve the quality of teaching and cultivation of talents. Students are encouraged to participate in various academic activities, such as "MUST Great Masters Seminars", so that students have the opportunity to learn from academicians of the Chinese Academy of Sciences, academicians of Chinese Academy of Engineering and many famous scholars, their successful experiences and outstanding achievements will be great to help the students to develop an international outlook. Students are also encouraged to participate in variety of school activities and overseas exchange programs. We have established cooperative relationship with famous pharmacy faculties in United States, Portugal, Hong Kong and mainland China, providing more choices for internship and employment opportunities. School of pharmacy strives to provide the best teachers, the most favorable conditions, and the most powerful support for the students to achieve their ideal goals.



▲ 菩提長者關懷保健活動 Student Activities

查詢 Enquiries

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