

# 他山之石

看過了國內幾所研究所的概略介紹，你（妳）是否也想了解一下國外藥學研究教育的情形呢？我們以美國藥學教育為例，將藥學院的研究課程，分為六大部分。分別為：

Pharmacy includes: pharmaceuticals, industrial pharmacy, clinical pharmacy, drug information.

Pharmaceutical chemistry includes: clinical chemistry, radiopharmacy, bio-nucleonics, medicinal chemistry, radiological health.

Pharmacognosy includes: molecular biology, quantum biology, microbiology.

Pharmacology includes: biochemical pharmacology, toxicology, neuropharmacology, psychopharmacology, cardiovascular pharmacology, autonomic pharmacology.

Pharmacy administration includes: hospital pharmacy administration, history of pharmacy, social studies of pharmacy.

Hospital pharmacy includes: hospital pharmacy only.

根據 American Journal of Pharmaceutical Education 期刊的統計：

## 一、碩士學位 (M S)

1982-83年獲得碩士學位人數較1981-82年減少了3.8% (763人減為734人)。主要減少的科目為：pharmacy / pharmaceuticals、pharmaceutical / medicinal chemistry、hospital pharmacy、pharmacology等六項。僅 pharmacy administration 及 pharmacognosy 人數增加。各項詳細人數，請參見 Table 1。

Table I. Fall 1983 full-time graduate enrollment in masters programs

Schools and colleges by state	Pharm.		Ph.Chem.		Phcog.		Phcol.		Ph.Adm.		Hosp.Ph.		Totals		Grand total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Auburn U.	5	1	3	0	0	0	2	2	0	0	0	0	10	3	13
Arizona, U. of	0	1	0	2	1	0	15	15	4	1	1	0	21	19	40
Arkansas, U. of	0	0	0	0	0	0	0	0	0	0	3	3	3	3	6
Pacific, U. of	4	2	4	0	0	0	4	2	0	0	0	0	12	4	16
So. California, U. of	2	2	8	6	0	1	0	1	0	0	0	0	10	10	20
Colorado, U. of	1	1	1	0	0	0	0	1	1	1	1	0	4	3	7
Connecticut, U. of	3	1	1	0	0	1	2	2	0	1	0	0	6	5	11
Florida A&M U.	0	0	2	0	2	0	10	9	0	0	0	0	12	9	21
Florida, U. of	1	0	0	1	0	0	0	0	0	0	2	2	3	3	6
Georgia, U. of	7	4	0	2	0	0	3	2	1	1	0	0	11	9	20
Idaho State U.	0	0	1	0	0	1	2	1	0	0	0	0	3	2	4
Illinois, U. of	8	2	5	3	1	1	0	0	2	2	0	0	16	8	24
Butler U.	0	1	0	0	0	0	1	1	0	0	1	0	2	2	4
Purdue U.	3	1	9	3	1	1	3	2	1	0	0	0	17	7	24
Iowa, U. of	0	3	3	1	0	0	0	0	1	1	3	3	7	8	15
Kansas, U. of	0	0	4	0	0	0	0	0	0	0	3	5	7	5	12



Schools and colleges by state	Pharm.		Ph.Chem.		Phcog.		Phcol.		Ph.Adm.		Hosp.Ph.		Totals		Grand total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Kentucky, U. of	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2
Northeast Louisiana U.	5	2	1	0	0	0	1	2	1	1	0	0	8	5	13
Maryland, U. of	4	0	1	0	0	0	1	2	1	0	4	2	11	4	15
Massachusetts Coll. of Pharm.	11	9	3	4	0	0	0	0	0	0	7	1	21	14	35
Northeastern U.	0	0	6	0	0	0	1	0	0	0	1	2	8	2	10
Michigan, U. of	1	0	6	8	1	0	0	0	0	0	0	0	8	8	16
Wayne State U.	1	0	2	0	0	0	0	0	0	1	0	0	3	1	4
Minnesota, U. of	0	0	1	1	2	0	0	0	(1)	(2)	5	8	9	11	20
Mississippi, U. of	2	0	0	1	0	0	0	1	9	8	1	1	12	11	23
Missouri-Kansas City, U. of	1	1	0	0	0	0	2	1	2	0	0	0	5	2	7
Montana, U. of	0	0	0	0	1	2	0	0	0	0	0	0	2	1	3
Nebraska, U. of	2	0	0	0	0	0	1	1	0	0	0	0	3	1	4
Rutgers U.	7	4	0	2	1	0	2	3	0	0	0	0	10	9	19
A&M Schwartz, LIU	12	6	0	0	0	0	0	2	4	2	0	0	16	10	26
St. John's U.	5	9	0	0	0	0	2	2	4	2	0	0	11	13	24
State U. of NY at Buff.	0	1	2	0	0	0	0	1	0	0	0	0	2	2	4
North Carolina, U. of	2	3	1	2	0	0	0	0	1	1	6	9	10	15	25
North Dakota State U.	0	0	1	0	5	0	0	0	0	0	2	2	8	2	10
Ohio State U.	1	1	0	0	0	0	0	2	3	0	10	6	14	9	23
Cincinnati, U. of	5	2	0	1	0	0	2	0	0	0	0	0	7	3	10
Toledo, U. of	0	1	0	0	3	1	0	1	0	0	2	2	5	5	10
Oklahoma, U. of	4	0	1	1	0	0	1	2	2	0	2	0	10	3	13
Oregon State U.	0	2	1	1	0	0	3	0	0	1	(1)	(3)	5	7	12
Duquesne U.	3	3	1	1	0	0	2	3	0	0	0	0	6	7	13
Philadelphia Coll. of Pharm.	0	0	6	3	1	0	3	0	0	0	0	0	10	3	13
Temple U.	1	0	6	4	0	0	4	0	0	0	0	0	11	4	15
Pittsburgh, U. of	3	1	0	0	0	1	0	1	0	0	0	0	3	3	6
Rhode Island, U. of	0	1	1	2	2	0	5	2	0	0	0	0	8	5	13
South Carolina, U. of	1	0	0	0	0	0	1	0	1	2	0	1	3	3	6
Tennessee, U. of	0	2	0	0	0	0	0	0	2	2	0	0	2	4	6
Houston, U. of	6	4	0	0	7	2	0	2	0	0	7	9	20	17	37
Texas at Austin, U. of	3	5	0	2	0	0	4	4	1	2	0	0	8	13	21
Utah, U. of	0	0	0	0	0	0	0	0	1	1	2	1	3	2	5
Washington State U.	0	0	0	0	0	0	4	0	0	0	0	0	4	0	4
West Virginia U.	2	2	2	3	0	0	0	0	1	1	0	0	5	6	11
Wisconsin-Madison, U. of	1	0	0	0	0	0	0	0	0	0	8	3	9	3	12
Total	117	79	83	54	26	10	83	70	44	33	72	63	425	309	734

### 三博士學位 (PHD)

恰好與碩士學位情形相反，1982-3年獲得博士學位者乃較往年增加了3.8%，共1373人；尤其是女學生自383人增為411人。但pharmacognosy減少了13.5%，pharmaceutical/medical chemistry減少了2.8%。詳細數目，請參照Table II。

Table II. Fall 1983 Full-time graduate enrollment in PhD programs<sup>a</sup>

Schools and colleges by state	Pharm.		Ph.Chem.		Phcog.		Phcol.		Ph.Adm.		Hosp.Ph.		Totals		Grand total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arizona, U. of	7	1	9	2	0	0	23	3	1	2	0	0	40	8	48
California, U. of	0	0	48	21	0	0	0	0	0	0	0	0	48	21	60
Pacific, U. of	1	2	3	0	0	0	0	2	0	0	0	0	4	4	8
So. California, U. of	7	1	11	5	0	1	4	1	1	0	0	0	23	8	31
Colorado, U. of	1	1	1	0	0	0	6	0	1	1	0	0	9	2	11
Connecticut, U. of	21	10	7	1	3	0	12	10	0	0	0	0	43	21	64
Florida, U. of	9	5	10	3	0	0	0	0	3	3	0	0	22	11	33
Georgia, U. of	8	1	6	2	0	0	3	3	1	0	0	0	18	6	24
Illinois, U. of	6	3	6	7	9	4	0	0	0	0	0	0	21	14	35
Purdue U.	26	15	29	13	2	1	12	4	4	1	0	0	73	34	107
Iowa, U. of	21	9	9	2	0	0	0	0	3	0	0	0	33	11	44
Kansas, U. of	36	15	24	6	0	0	12	4	0	0	0	0	72	25	97
Kentucky, U. of	18	9	12	2	0	0	1	1	0	0	0	0	31	12	43
Northeast Louisiana U.	3	1	0	0	0	1	5	2	1	1	0	0	9	5	14
Maryland, U. of	3	1	2	1	0	0	6	8	1	1	0	0	12	11	23
Massachusetts Coll. of Pharm.	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Michigan, U. of	6	2	16	12	2	1	0	0	0	0	0	0	24	15	39



Schools and colleges by state	Pharm.		Ph.Chem.		Phcog.		Phcol.		Ph.Adm.		Hosp.Ph.		Totals		Grand total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Wayne State U.	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
Minnesota, U. of	11	5	11	6	8	2	0	0	14	6	0	0	44	19	63
Mississippi, U. of	0	0	0	0	1	0	1	1	8	3	0	0	10	4	14
Missouri-Kansas City, U. of	2	0	0	0	0	0	0	1	1	0	0	0	3	1	4
Nebraska, U. of	4	3	6	2	0	0	2	2	0	0	0	0	12	7	19
Rutgers U.	7	3	1	1	4	0	10	18	0	0	0	0	22	22	44
St. John's U.	2	1	0	0	0	0	1	1	0	0	0	0	3	2	5
State U. of NY-Buffalo	20	9	13	3	0	0	10	2	0	0	0	0	43	14	57
North Carolina, U. of	6	2	11	5	0	0	0	0	0	1	0	0	17	8	25
North Dakota State U.	0	0	0	0	2	0	0	0	0	0	0	0	2	0	2
Ohio State U.	11	7	21	9	0	0	8	5	4	0	0	0	44	21	65
Cincinnati, U. of	7	0	0	0	0	0	0	0	0	0	0	0	7	0	7
Oklahoma, U. of	1	1	0	0	0	0	7	0	1	0	0	0	9	1	10
Oregon State U.	2	1	4	2	0	0	4	5	0	0	0	0	10	8	18
Dusquesne U.	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2
Philadelphia Coll. of Pharm.	10	3	3	1	1	0	5	2	0	0	0	0	19	6	25
Temple U.	0	0	4	1	0	0	7	1	0	0	0	0	11	2	13
Pittsburgh, U. of	2	2	6	1	5	4	9	5	0	0	0	0	22	12	34
Rhode Island, U. of	2	0	1	1	2	1	3	0	0	0	0	0	8	2	10
Medical U. of South Carolina	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
South Carolina, U. of	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
Tennessee, U. of	1	0	1	0	0	0	8	3	0	0	0	0	10	3	13
Houston, U. of	5	0	0	0	0	0	10	3	0	0	0	0	15	3	18
Texas at Austin, U. of	8	3	7	3	0	0	6	3	2	3	0	0	23	12	35
Utah, U. of	18	5	5	2	0	0	6	5	0	0	0	0	29	12	41
Virginia Commonwealth U.	8	1	8	3	0	0	0	0	0	0	0	0	16	4	20
Washington, U. of	6	9	15	3	0	0	0	0	0	0	0	0	21	12	33
Washington State U.	0	0	2	0	1	1	13	2	0	0	0	0	16	3	19
West Virginia U.	5	1	0	2	0	0	0	0	0	0	0	0	5	3	8
Wisconsin-Madison, U. of	23	12	9	1	5	3	12	5	3	1	0	0	52	22	74
Total	337	144	323	123	45	19	207	102	50	23	0	0	962	411	1373

Table III Distribution of foreign pharmacy graduate students by degree, sex and country

Country	PhD		MS		PharmD		Total		Grand total
	M	F	M	F	M	F	M	F	
<b>Africa</b>									
Ghana	1	0	1	1	0	0	2	1	3
Nigeria	3	3	9	2	1	0	13	5	18
South Africa	0	0	0	0	1	0	1	0	1
Tanzania	1	0	0	0	0	0	1	0	1
<b>Asia (South &amp; East)</b>									
Hong Kong	6	1	3	0	0	1	9	2	11
India	30	2	17	1	0	0	47	3	50
Japan	0	0	1	0	0	0	1	0	1
Korea	5	2	3	0	1	0	9	2	11
Pakistan	2	0	0	0	0	0	2	0	2
Philippines	0	2	1	2	0	0	1	4	5
Taiwan	16	10	8	5	3	0	27	15	42
Thailand	6	3	0	4	0	0	6	7	13
Rep. China	2	3	4	6	0	0	6	9	15
Vietnam	0	0	0	0	0	1	0	1	1
<b>Europe</b>									
England	5	1	1	0	1	1	7	2	9
Denmark	1	0	0	0	0	0	1	0	1
Spain	0	0	1	0	0	0	1	0	2
West Germany	0	0	1	0	0	0	1	0	1
<b>Latin America</b>									
Brazil	0	1	0	0	0	0	0	1	1
Columbia	0	0	0	1	0	0	0	1	1
<b>Country</b>									
Ecuador	0	0	1	0	0	0	1	0	1
Mexico	1	1	0	0	0	0	1	1	2
Panama	1	0	0	3	0	0	1	3	4
Uruguay	0	0	0	1	0	0	0	1	1
Venezuela	0	1	0	2	0	2	0	5	5
West Indies	1	0	0	1	0	0	1	1	2
<b>Middle East</b>									
Egypt	6	3	1	0	1	0	8	3	11
Iran	3	1	0	0	0	0	3	1	4
Iraq	2	0	0	2	0	0	2	2	4
Israel	0	0	0	0	0	1	0	1	1
Jordan	1	0	0	0	0	0	1	0	1
Lebanon	0	0	0	2	0	0	0	2	2
Saudia Arabia	0	0	4	0	0	0	4	0	4
Sudan	1	0	0	0	0	0	1	0	1
Syria	0	0	1	1	0	0	1	1	2
<b>North America</b>									
Canada	1	1	0	1	3	1	4	3	7
<b>Oceania</b>									
Australia	1	0	0	0	0	0	1	0	1
<b>Unknown</b>									
Unknown	2	1	0	0	0	0	2	1	3
Totals	98	36	57	35	11	7	166	78	244

同時列於 Table 上之學校，均為美國藥學教育會 ( the American Council on Pharmaceutical Education ) 所認定，必需由其認定的學校畢業，方有資格參加藥師執照考試，取得合格執照。