

# New Pharmacy Program curriculum 2024

The Pharmacy Program has been developed to revise and align the Bachelor of Pharmacy Core Competencies with the standards of the Ministry of Health, ensuring that the curriculum meets nationally and internationally recognized qualifications and expected learning outcomes. The program aims to advance a modern, competent, and ethically grounded pharmacy profession that is comparable to regional and developed-country standards, while effectively responding to current and future health service needs within the community.

All Courses in Curriculum 2024 of Bachelor of Pharmacy.

N	N	Courses	Theory	SSPIC		Self-Directed Learning	Clerkship					
				SG	SK							
<b>Foundation Year</b>												
<b>Foundation Year, Semester I</b>												
1	1	Foreign Languages I	30	60	0	30	0					
2	2	General Chemistry	15	15	15	30	0					
3	3	Inorganic Chemistry	15	15	30	60	0					
4	4	Anatomy physiology	30	30	15	60	0					
5	5	Health System	15	15	0	30	23					
6	6	ICT in Pharmacy	15	0	30	45	0					
7	7	Plant Biology	15	0	30	30	5					
<b>Total hours in Foundation Year, Semester I</b>			135	135	120	285	23					
<b>Total Credits in Foundation Year, Semester I</b>			9	4.5	4	NA	0.5					

Foundation Year, Semester II							
1	1	Organic Chemistry	30	15	15	60	0
2	2	Research in Pharmacy I	30	15	15	30	0
3	3	Botany	30	0	30	60	10
4	4	Analytical Chemistry	15	15	30	60	0
5	5	Biophysics	30	15	15	60	0
6	6	Infection Prevention & Control, Medical Waste Management and First Aid	30	15	0	30	0
Total hours in Foundation Year, Semester I			165	75	105	300	0
Total Credits in Foundation Year, Semester I			11	2.5	3.5	NA	0
Community Clerkship I (Health System)			-	-	-	-	23
Total hour in foundation Year			300	210	225	585	23
Total Credits in Foundation Year			20	7	7.5	NA	0.5

Total in Foundation Year	Hours	Percentage	Credit/ECTS
Lecture	300	39.57%	20
SG	210	27.70%	7
SK	225	29.68%	7.5
Clerkship	23	3.03%	0.5
Total	758	100%	35
Self-directed Learning	585	NA	44 ECTS

## Year 2

### Year 2, Semester

N	N	Courses	Theory	SSPIC		Self-Directed Learning	Clerkship
				SG	SK		
14	1	Foreign Language II	30	60	0	30	0
15	2	Molecular Biology	30	0	15	45	15
16	3	Research in Pharmacy II	30	15	15	30	0
17	4	Instrumental Analytical Chemistry	30	15	15	60	0
18	5	Metabolic Biochemistry	30	15	30	60	30
19	6	Hematology (General & Applied)	30	0	30	45	30
<b>Total hours Year 2, Semester I</b>			180	105	105	270	75
<b>Total Credits in Foundation Year, Semester I</b>			12	3.5	3.5	NA	1.5

## Year 2

### Year 2, Semester II

20	1	Pharmaceutical technology foundation	15	0	15	30	0
21	2	Parasitology	30	0	30	60	30
22	3	Immunology (General and apply)	15	15	15	30	15
23	4	Virology (General and apply)	15	15	15	30	30
24	5	Bacteriology (General and apply)	45	0	30	60	45
25	6	Clinical biochemistry	30	30	0	60	15

<b>26</b>	7	Clinical biology	15	30	0	45	15
<b>Total hours in year 2, Semester 2</b>			165	90	105	315	150
<b>Total credits in year 2, Semester 2</b>			11	3	3.5	NA	3.5
<b>Medical lab clerkship</b>			-	-	-	-	225
<b>Total hours in year 2</b>			345	195	210	585	225
<b>Total credits in year 2</b>			23	6.5	7	NA	5

Total in Year 2	Hours	Percentage	Credit/ECTS
Lecture	345	35.38%	23
SG	195	20.00%	6.5
SK	210	21.54%	7
Clerkship	225	23.08%	5
Total	975	100%	41.5
Self-directed learning	585	NA	44.5 ECTS

**Year 3**

**Year 3 Semester I**

N	N	Course	Theory	SSPIC		Self-Directed Learning	Clerkship
				SG	SK		
27	1	Seminology-pathology	30	15	0	45	0
28	2	Toxicology	30	15	15	60	0
29	3	Bromatology and nutrition	30	30	15	60	0
30	4	Molecular pharmacy	30	15	15	60	0
31	5	Gelenic pharmacy	30	15	15	60	45
32	6	Cryptogamy and toxic plants	15	15	15	45	5
<b>Total hours in year 3, Semester I</b>			165	105	75	330	45
<b>Total credits in year 3, Semester I</b>			11	3.5	2.5	NA	1
<b>Year 3 Semester II</b>							
33	1	Hydrology	30	15	0	45	0
34	2	Interprofessional education I	15	15	0	30	90
35	3	Pharmacognosy I	30	0	30	60	3
36	4	Pharmaceutical chemistry I	30	0	15	45	0
37	5	Applied pharmacology I	30	30	0	60	45
38	6	Pharmaceutical management	30	15	0	30	90
39	7	Behavioural sciences	15	15	0	30	0
<b>Total hours in year 3, Semester II</b>			180	90	45	300	180
<b>Total credits in year 3, Semester II</b>			12	3	1.5	NA	4
<b>Hospital pharmacy Clerkship</b>			-	-	-	-	225
<b>Community II (Traditional medicine)</b>			-	-	-	-	23

<b>Total hours in year 3, Semester II</b>	345	195	120	690	248
<b>Total credits in year 3, Semester II</b>	23	6.5	4	NA	5.5

Total in Year 3	Hours	Percentage	Credit/ECTS
Lecture	345	37.99%	23
SG	195	21.47%	6.5
SK	120	13.21%	4
Clerkship	248	27.31%	5.5
Total	908	100%	39
Self-directed learning	630	NA	43 ECTS

Year 4							
Semester I							
N	N	Course	Theory	SSPIC		Self-Directed Learning	Clerkship
				SG	SK		
40	1	Pharmaceutical chemistry II	30	15	15	45	0
41	2	Pharmacokinetics	30	15	15	60	0
42	3	Applied pharmacology II	30	30	0	60	0
43	4	Leadership	15	15	0	30	0
44	5	Interprofessional education II	15	15	0	30	0
45	6	Pharmacognosy II and Phytotherapy	30	15	0	30	23
<b>Total hours in year 4, Semester I</b>			150	105	30	225	0
<b>Total credits in year 4, Semester I</b>			10	3.5	1	NA	0
<b>46</b>	1	Clinical pharmacy I	30	30	0	60	45

<b>47</b>	2	Pharmacy practice I	30	15	15	60	180
<b>48</b>	3	Pharmaceutical technology I	30	15	30	60	0
<b>49</b>	4	Pharmaceutical quality control	15	15	15	45	45
<b>50</b>	5	Antimicrobial stewardship	30	15	15	30	0
<b>Total hours in year 4, Semester 2</b>			135	90	75	255	225
<b>Total credits in year 4, Semester 2</b>			9	3	2.5	NA	5
<b>Community pharmacy Clerkship</b>			-	-	-	-	225
<b>Total hours in year 4</b>			285	195	105	510	225
<b>Total credits in year 4</b>			19	6.5	3.5	NA	5

Total in Year 4	Hours	Percentage	Credit/ECTS
Lecture	285	35.18%	19
SG	195	24.97%	6.5
SK	105	12.96%	3.5
Clerkship	225	27.77%	5
Total	810	100%	34
Self-directed learning	510	NA	36.5 ECTS

## Year 5

### Year 5, Semester I

N	N	Course	Theory	SSPIC		Self-Directed Learning	Clerkship/Internship
				SG	SK		
51	1	Clinical pharmacy II	30	30	0	60	90
52	2	Pharmacy practice II	30	15	30	60	45
53	3	Interprofessional education III	15	15	0	30	22
54	4	Pharmaceutical	30	15	15	60	67

		technology II							
55	5	Pharmaceutical law and ethics	30	15	0	30	23		
56	6	Supply Chain management in pharmacy	15	15	0	30	22		
57	7	Pharmaceutical quality assurance	15	15	15	45	45		
58	8	Pharmacoeconomics	30	30	0	60	23		
59	9	Dermocosmetology	15	0	15	60	0		
<b>Total hours in year 5, Semester I</b>			210	150	75	435	0		
<b>Total credits in year 5, Semester I</b>			14	5	2.5	NA	0		
<b>Year 5, Semester II</b>									
Pharmaceutical manufacturing included Quality control and quality assurance, Clinical pharmacy, Traditional medicine and phytotherapy, Pharmaceutical management.			-	-	-	-	450		
	Total hours in year 5, Semester II		0	0	0	0	450		
	Total credits in year 5, Semester II		0	0	0	0	10		
<b>Total hours in year 5</b>			210	150	75	435	450		
<b>Total credits in year 5</b>			14	5	2.5	NA	10		

Total in Year 5	Hours	Percentage	Credit/ECTS
Lecture	210	23.72%	14
SG	150	16.94%	5
SK	75	8.47%	2.5
Clerkship/Internship	450	50.84%	10
Total	885	100%	31.5
Self-directed learning	435	NA	29 ECTS

\* Subjects that require community clerkship in the Traditional Medicine cluster.\*\* Subjects that require clerkship in Semester II, Year 5, at supported sites (Pharmaceutical Manufacturing, including Quality Control and Quality Assurance / Clinical Pharmacy, Traditional Medicine and Phytotherapy / Pharmaceutical Management).