



REPUBLIC OF KENYA

**MINISTRY OF HEALTH
PHARMACY AND POISONS BOARD
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NAIROBI**

**CREDIT WAIVER POLICY GUIDELINES FOR
PROGRESSION FROM DIPLOMA IN PHARMACY/
PHARMACEUTICAL TECHNOLOGY TO BACHELOR OF
PHARMACY DEGREE LEVEL**

ACKNOWLEDGEMENT

The guidelines constitute an important output of interactive discussions and consultations among the professionals appointed by the Pharmacy and Poisons Board.

The Board wishes to thank the following committee of experts and secretariat for their dedication and tireless efforts during the development of this credit waiver guidelines, standards and modalities for implementation.

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DEFINITION OF TERMS

1. **Credit**

A grade earned by a student in a given subject/ unit.

2. **Credit transfer**

It is the procedure of granting credit to a student for studies completed at another school.

3. **Credit Waiver/Credit exemptions**

This is where students may choose to be exempted from pre-requisite course/subject/unit if they have already completed similar subjects in the past Diploma. Please note however that the waived subjects/ units will not be graded but will be indicated as waived on the student's university transcripts.

Exemptions must be based on courses with similar content completed with a minimum grade of credit at schools of diploma level or above.

5. **Advanced standing**

It is used to describe the status of credit waivers granted to a student with a Higher National Diploma as distinct from normal credit waivers made available to ordinary diploma holders.

6. **Pharmaceutical Technologist**

Is a holder of diploma in pharmaceutical Technology or its equivalent from a recognized Institution, whose name has been entered in the Roll of Pharmaceutical Technologists in Kenya.

7. **Pharmacist**

Is a holder of Bachelor of Pharmacy degree or its equivalent, from a recognized institution and whose name has been entered in the register of Pharmacists in Kenya.

8. **Submitting University**

A university that submits a list of students granted credit waivers to the Pharmacy and Poisons Board for concurrence.

ACRONYMS

B. Pharm	Bachelor of Pharmacy
CHE	Commission for Higher Education
COMESA	Common Market for East and Southern Africa
CPD	Continuous Professional Development
cGMP	Current Good Manufacturing Practices
EAC	East African Community
FBHS	Faith-Based Health Services
GPPP	Good Pharmaceutical Procurement Practices
HND	Higher National Diploma
KEMSA	Kenya Medical Supplies Agency
KMTC	Kenya Medical Training College
KNDP	Kenya National Drug policy
KNEC	Kenya National Examination Council
MDGs	Millennium Development Goals
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
NQCL	National Quality Control Laboratory
PICS	Pharmaceutical Inspectorate Convention Scheme
PPB	Pharmacy and Poisons Board
TIVET	Technical Industrial, Vocational Education and Training
WHO	World Health Organization

FOREWORD

The Pharmacy and Poisons Act, Cap 244, Laws of Kenya, is an act of Parliament to make better provision for the control of the profession of pharmacy and the trade in drugs and poisons.

Cap 244, therefore, mandates the Pharmacy and Poisons Board (PPB) to regulate and approve education and training of pharmaceutical personnel in Kenya. The Board thus implements this mandate within the wider context of education sector laws, rules and practices.

It is from this mandate therefore, that the Board has taken the initiative to develop these credit waiver guidelines as a benchmark for quality training of competent pharmacy professionals. This document has been developed by experts drawn from pharmacy professionals, Ministry of Health, Ministry of Higher Education, Commission for Higher Education (CHE), Universities and other health care professional bodies. It addresses the core issues underlying institutional compliance to PPB national standards for pharmacy schools and Bachelor of Pharmacy (B.Pharm.) course approval procedures, which includes criteria for university pharmacy students seeking credit waiver/exemptions approval.

Finally, the Board wishes to express its sincere appreciation to all those who participated in the compilation of this policy guideline.

The development of this guideline serves as a milestone in the growth of Pharmacy training in Kenya. It will be useful tool to be used by existing universities to facilitate the progression from diploma in pharmacy to Bachelors of Pharmacy degree.

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REGISTRAR

EXECUTIVE SUMMARY

Considering the fact that there is need for appropriately qualified Pharmacy personnel to achieve specific flagships in the Vision 2030, PPB found it a matter of national importance to develop guidelines for credit waiver/exemption to facilitate the progression from Diploma in Pharmaceutical Technology to Bachelor of Pharmacy degree.

In view of this, the PPB appointed a team of accreditation expert committee on the 22nd Day, of July, 2010 to deliberate on the issue and advice the PPB accordingly.

The committee deliberations were guided by the following Terms of Reference (T.O.R)

1. Review the existing policies, laws, rules and regulations in the education sector to establish the eligibility of the credit waiver/transfer programmes.
2. To develop modalities of credit transfer/waiver from Diploma in Pharmaceutical Technology to Bachelor of Pharmacy degree
3. To review curricula for Diploma in Pharmaceutical Technology, B. Pharm. degree and to identify the gaps between the two
4. To estimate national manpower requirements for pharmacists for effective delivery of vision 2030.
5. To develop modalities for registration of graduates of credit transfer/waiver programs.
6. To deliberate on any other issues that may make it possible decided by the Board.

In the process of addressing TOR 1, the committee noted that there were gaps in the various laws and policies that required review and updating to strengthen training and regulation of pharmacy practise.

Various documents were considered in the development of this policy guideline that included; Kamunge Report of 1988, Kenya National Pharmaceutical Policy, Vision 2030, Kenya's new constitution and the Inter University Council for East African document on Credit Accumulation and Transfer System for East Africa. It was evident that all these documents emphasized the need to have qualified middle and high level personnel in all sectors of the economy, pharmaceutical sector included.

The committee developed modalities for credit waivers/exemption from Diploma in Pharmaceutical Technology to Bachelor of Pharmacy degree, after considering the

deficiencies in the Diploma in Pharmaceutical Technology curriculum which needs to be covered by progressing students. Contact hours for each course in the B. Pharm. Curriculum were analysed against those of Diploma in Pharmacy and Higher National Diploma curricula and thus informed the recommendations made in this document.

To qualify for credit waiver/exemptions one must be an enrolled Diploma in Pharmaceutical Technology and must also have attained a grade of credit and above. The Board recommends that they may be considered for admission into a B. Pharm Programme at second year in accordance with University Admission requirements.

In the event that there are any university wide or specific first year Pharmacy courses that may not have covered during Diploma programme, they should be taught in the course of the B. Pharm study programme.

The holders of Higher National Diplomas in Pharmacy (HND), wishing to enrol for B. Pharm program may be granted advanced standing and join the programme at the third year of study subject to university admission requirement. Again, in the event that there are any university wide or specific first and second year Pharmacy courses that may not have covered during Diploma programme, they should be taught in the course of the B. Pharm study program

1. INTRODUCTION

Training of pharmaceutical personnel started at the Kenya Medical Training College (KMTC) in 1926, initially training compounders, then dispensers, and later pharmacy assistants. In 1968, the Government started a 3-year Diploma in Pharmacy course at KMTC. The School of Pharmacy of the University of Nairobi was opened in 1974 and has been the only institution training pharmacists in Kenya.

The Kamunge report of 1988 recommended the expansion of Technical Industrial, Vocational, and Educational Training (TIVET) as a strategy in combating the unemployment problem as well as lack of technical personnel. In response to this policy initiative, the country experienced massive expansion of middle level colleges to award various Diploma certificates in TIVET. Along with these, many institutions were set up to award Diploma in pharmaceutical technology as part of Entrepreneurship Education using various designed curricula. In support of this, the Pharmacy and Poisons Board (PPB) found it necessary to have a prototype Diploma in Pharmaceutical Technology curriculum in 2004 to standardise the quality of training of Diploma holders.

In the recent times there has been an increasing glamour for more training opportunities both at diploma and degree programs leading to more institutions wanting to train pharmaceutical personnel. The training in both diploma and degree has been expanded and streamlined through standardization of the curriculum, accreditation of additional training institutions and Universities and the establishment of a mechanism by the PPB to enroll/register the qualified personnel.

To ensure that every pharmaceutical personnel is accorded the chance of personal development to adapt to the ever changing pharmaceutical environment, the Board has developed this guideline on progression from diploma in Pharmaceutical Technology holder to degree in Pharmacy. The development of this guideline took cognizant of existing policies, laws and regulations governing manpower development in the pharmaceutical sector, and the Vision 2030 and the Millennium development Goals (MDGs).

1.1 Pharmacy and Poisons Board training policy framework

1. The Framework which has been guiding training of pharmacy practitioners in the country was based on the fact that only University of Nairobi was offering degree in pharmacy while Kenya Medical Training College was offering diploma in pharmacy. The policy did not envisage the human development of diploma holders as is the case now. Hence there is need for development, adoption and implementation of this new policy on progression from diploma to degree.
2. Vision 2030 and the MDGs have various provisions that affect the pharmaceutical sector directly or indirectly. The sector cuts across the three pillars of Vision 2030, where pharmacists are expected to be democratic leaders of integrity, involved in manufacturing, trade and pharmaceutical care. This policy framework will ensure adequate and trained pharmacists.

1.2 Training Policy Framework Objectives

The overall objective of the Policy is to ensure equitable access to quality pharmacy education through the public, faith-based, NGO and private providers. Specific objectives are to:

1. Ensure continuous availability of opportunities for training of pharmacy practitioners especially those intending to progress from Diploma in Pharmaceutical Technology to B. Pharm.
2. Assure the quality of pharmacy education in Kenya, in line with internationally acceptable standards.
3. Ensure appropriate regulation and control of institutions offering pharmacy courses, especially B. Pharm.
4. Encourage holders of Diploma in Pharmaceutical Technology to progress to B. Pharm. for self-sufficiency in the domestic market and to promote growth in movement of pharmacists to other countries within the region.
5. Develop adequate and appropriate human resources to meet the needs of the pharmaceutical sector.

6. Increase and strengthen institutional, technical and human resource capacity for the effective provision of pharmaceutical services.
7. Enhance transparency, accountability and good governance in the pharmaceutical education sub-sector.
8. Promote and effectively regulate pharmaceutical research and innovations that make medicines and health technologies more effective, safer and more affordable

2 TRAINING AND DEVELOPMENT OF HUMAN RESOURCE

2.1 Key issues impacting on training and development of human resources for the pharmaceutical sector

This includes and not limited to:

1. Inadequate numbers of trained personnel, and limited local training capacity to meet national and regional needs.
2. Changing role of the pharmacist in the health care setting
3. Inequitable distribution of pharmaceutical personnel across the country with the majority concentrated in the private sector and in urban areas.
4. Lack of recognition of specialties, and inappropriate deployment of expertise.
5. Unmet need for pharmaceutical training for the local and regional markets, due to limited training capacity in the region.
6. Lack of mechanisms for academic progression from diploma to degree.
7. Lack of alignment of training to the needs and trends of the pharmaceutical sector, including skills gaps in key areas pharmaceutical policy areas.

2.2 The Government will direct and support appropriate training, development and management of human resources required for delivery of pharmaceutical services.

To facilitate the attainment of this objective, the Government shall:

1. Develop and implement a national pharmaceutical human resource strategy.
2. Enact legislation to recognize pharmaceutical specializations
3. Review and implement pharmaceutical schemes of service to attract and retain appropriate HR for the public service.
4. Recruit and retain adequate numbers of pharmaceutical personnel in the public service in line with established health sector strategies, norms and standards.
5. Include the deployment of pharmaceutical personnel in ongoing sector strategies and initiatives for improving HR capacity in the FBHS.
6. Expand pharmaceutical training capacity and opportunities at colleges and universities and create mechanisms to enable access by trainees from other countries
7. Expand the variety and scope of postgraduate courses to meet the growing requirements for pharmacy specialists in Kenya and the sub-region.
8. Through the PPB and the Pharmacy Council the following shall be undertaken.
 - a) Institute mechanisms for progression from diploma to degree level.
 - b) Devise and enforce a system for Continuous Professional Development (CPD).
 - c) Foster multilateral collaboration to enable mutual recognition of pharmaceutical personnel in the context of regional integration and international cooperation.
9. Define the competencies, roles and responsibilities of pharmaceutical practitioners at all levels and effectively regulate their training and practice.
10. Encourage and support the review, harmonization and regulation of pharmaceutical training curricula and standards to align with defined needs of sector.

3 TRAINING, LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 Overall Pharmaceutical Legal Framework

1. The pharmaceutical legal framework in Kenya has been anchored on the Pharmacy and Poisons Act of 1957 (Chapter 244).
2. The structure of Chapter 244 and associated legislation was modeled around the British law of the 1950's. However, pharmaceutical law in the United Kingdom changed fundamentally in 1960 to the Medicines Act and Pharmacy Professionals Act which have since evolved in line with developments elsewhere, to embrace the modern principles of drug and professionals' regulation. Fifty three years after enactment of the *Pharmacy and Poisons Act (1957)*, the national and global pharmaceuticals scene has changed drastically, yet the legal framework has not evolved sufficiently in tandem with these changes. Amendments to Chapter 244 since its enactment are:
 - a) Amendment to Chapter 244 (1983): Introduction of rules governing the supply, distribution and dispensing of drugs.
 - b) Amendment to Chapter 244 (1992): Mandate to the newly established National Quality Control Laboratory to examine medicines and ensure their quality.
 - c) Amendment to Chapter 244 (1993): Transformation of the Drugs and Poisons Board into a Pharmacy and Poisons Board with extended competence, including responsibility for the Laboratory, Drug Registration activities and related functions.
 - d) Amendment to Chapter 244 (2002): Provision for the training, enrollment and practice of pharmaceutical technologists.
3. Regulation of pharmacy training is not explicitly provided for in the 1957 legislation. The procedures which exist are based entirely on a general clause entitling the Minister to "make regulations" in the field of pharmacy and registration or enrolment of pharmacy personnel from a college "recognized by the Board". In 1998, a 'Workshop of Stakeholders' on the Review of Pharmaceutical Legislation proposed the replacement of the 1957 Act with a modern Medicines Act and Pharmacy Professionals Act. This proposal was however not implemented. Subsequent pharmaceutical sector assessments and reviews have highlighted the shortcomings in the current pharmacy

law and weaknesses of key institutions, which are a serious hindrance to development of the pharmaceutical sector and related services.

4. The Pharmacy and Poisons Board (PPB) is the main institution mandated with enforcement of the Pharmacy and Poisons Act. Other institutions with mandates to enforce pharmacy- education related legislations are CHE (University Act), Ministry of Education (Education Act Cap 211) and specific university statutes as contained in their individual charters or Acts of parliament establishing them.

3.2 Key shortcomings of the current legislative and institutional framework for pharmacy training are as follows:

1. Conflicting roles of key offices and institutions concerned with pharmaceutical training
2. Outdated legislation with inadequate provisions for regulating the broad scope of pharmaceutical training, inadequate scope and definitions that is not in line with standard international definitions.
3. Inadequate provisions, in the Pharmacy and Poisons Act, for the enforcement of statutory and ethical standards in pharmacy training.
4. Inadequacy of the education sector legislations for the enforcement of ethical standards in pharmacy training

To ensure adequate legal and institutional framework for pharmacy professionals policy, the Government will update, restructure and harmonize as required all pharmacy laws and other relevant legislation, regulations and rules with a view to achieve the following objectives:

- Increase and strengthen institutional, technical and human resource capacity for the effective provision of pharmaceutical services.
- Enhance transparency, accountability and good governance in the pharmaceutical education sub-sector.
- Promote and effectively regulate pharmaceutical research and innovations that make medicines and health technologies more effective, safer and more affordable

4 RATIONALE FOR CREDIT WAIVER

The quest for Pharmacy training has been on the rise as a result of huge population growth, change in disease patterns, and advances in pharmaceutical sciences. However the training of pharmacy professionals has been a preserve of the government which has had to contend with limited capacity despite the desire by many high school leavers to take up the training. The low enrolment in the universities impacts negatively on national socio-economic development and transformation of the individual.

Currently there are over 24 institutions approved by Pharmacy & Poisons Board to offer Diploma in Pharmaceutical Technology. The Board has so far enrolled over 5000 pharmaceutical technologists some of whom would want to pursue higher learning.

The Board, in collaboration with stakeholder developed indicative curricula for both degree and Diploma. Assessment of the two curricula has made it easier for the Board to identify gaps between diploma and degree holders and develop credit waiver guidelines to be adopted by our universities. Credit waivers/ exemptions have the following advantages and are justified as follows:

- i) It is cost-effective
- ii) Provides opportunity for career advancement, employment, research, and development due to improved competencies.
- iii) Motivates Pharmaceutical Technologists.
- iv) Saves the country its foreign currency by people training locally.
- v) Creates progression from diploma to degree thus opening up avenues for the implementation of current KNPP, 2012.
- vi) Builds critical mass that ensures the Bachelors of Pharmacy degree is the entry point to the Pharmacy profession in future.

4.1 Challenges to credit waivers

Credit waiver is easily possible if the same institution offers diploma and degree programmes. However several challenges come into play when these two programmes are offered by two separate institutions.

In considering the progression from diploma in pharmacy to Bachelor of Pharmacy, the following questions need to be answered:

- i. What credit waivers does the diploma in Pharmaceutical technology get when joining the B. Pharm. program?
- ii. What are the general requirements for joining the B. Pharm. in terms of subjects?
E.g. Language, basic sciences, etc.
- iii. What are the pre-requisites for entry into B. Pharm.?
- iv. What are the core subjects in the B. Pharm. program? How much of these are already covered in the diploma in Pharmaceutical technology?
- v. What are the electives for the B. Pharm.?
- vi. What is the supplementary/ support content for the B. Pharm.?
- vii. What is the desired duration of the practical component of B. Pharm.?
- viii. What is the desired duration and components of internship for B. Pharm.?
- ix. Who will determine the course comparability or equivalency?
- x. What is the maximum number of professional course credits that can be waived?
Which core units cannot be exempted?
- xi. Decision regarding credit waiver is a matter of academic judgement by the institution. How can the outcome of the process be transparent, rigorous and fair especially if applicants from 2 different institutions apply for admission?
- xii. Is there need for personal interviews and written credit waiver exams?
- xiii. What certifications are going to be used for evaluation? College transcripts or KNEC Diploma supplements?

Other challenges;

- No articulation agreement between colleges and local/regional universities. An “articulation agreement” is a formal agreement between two or more educational entities to accept credits in transfer toward a specific academic program.
- Difference in the names of subjects between the universities and colleges

5 INTER/INTRA UNIVERSITCREDIT TRANSFERS/WAIVER/EXEMPTION

The following practical points were agreed upon as adopted from the Inter University Council for East African document on Credit Accumulation and Transfer System for East Africa (CATS East Africa) .These are minimal and nothing prevents a university to go above this. Each university is free to decide on their system of study timing division, either semester or term.

- i. The duration for Bachelor of pharmacy (B.Pharm) is 5 years, full time non-modular (continuous) programme.
- ii. The entry to a programme can be through:
 - Direct entry after secondary school training
 - Indirect entry through diploma or equivalent qualification
- iii. Each programme must have a practical training as a compulsory part of the programme
- iv. The mode of delivery of courses can be either through lectures, tutorials, seminars and problem based learning.
- v. The credit system is set as follows:

One (1) Course Unit (CU) is equivalent to 45 hours (allocated as follows)

30 hours of teaching

10 hours of practical

5 Hours of tutorial

And each course unit will be examinable.

- vi. A student registered in one university must take at least 67% of the courses at this university to obtain a degree from that university .The remaining 33% can be courses taken in other universities (It is recommended that no more than 1/3 of credits may be transferred).
- vii. The normal academic qualifications for the post of lecturer is a minimum of a Masters degree in pharmacy and a PhD in any of the pharmacy specialisation

6 ANALYSIS OF BACHELOR OF PHARMACY AND DIPLOMA CURRICULLA

Course structures for B. Pharm. and Diploma in Pharmaceutical were assessed in terms of the following (**Annex 1**)

- Subjects/units
- Learning outcomes
- Content(contact hours)
- Instruction methods
- Equipments
- Assessment tools

6.1 Assessment results

- i) There was a repetition of certain subjects and units in the two curricula(The depth of training was different)
- ii) Learning outcomes for B.Pharm. and Diploma were different
- iii) Content of subjects was assessed vide contact hours and found to be different
- iv) Instruction methods were also different since most diploma colleges do not have structures for tutorials, facilities for practical in Biochemistry; Physiology; Human Anatomy and Pathology; and Teaching Hospital
- v) Assessment tools and grading were very different.

6.2 Conclusions from the Assessment

- i) Level of knowledge required for Bachelor of Pharmacy is higher than for Diploma.
- ii) The curriculum outlines the learning outcomes, contents, instructional methods, equipments and materials, and assessment tools.
- iii) The PPB indicative Bachelor of Pharmacy Programme consists of structured academic programmes, lecture attendance of specified modules and completion of all assessments.
- iv) The course is conducted through lectures, laboratory practical, tutorials, seminars hospital and industrial sessions
- v) The degree program is more detailed and integrative in approach and takes more years.
- vi) A Pharmaceutical Technologist needs at least 4 academic years (144 weeks) of training to attain B. Pharm. degree

Course structures for B.Pharm., and Higher National Diploma were assessed and concluded that higher diploma graduates had attained more knowledge than ordinary diploma holders. Candidates of HND may be granted advanced standing by the individual universities after assessment of the academic history.

Generally Pharmaceutical Technologists have relevant and necessary experience that demonstrates their entitlement and appropriateness for entry to pharmacy degree or exemption to some courses or units. This is because they have undergone certified and experiential learning.

7. CREDIT WAIVER SYSTEMS

7.1 Requirements

The analysis of the various laws and policies regulating the training of pharmacy personnel brings out various gaps that require updating and review to harmonise the regulatory process.

Modalities for credit waivers/exemption progression from Diploma in Pharmaceutical Technology to Bachelor of Pharmacy degree have been developed, after considering the deficiencies in the Diploma in Pharmaceutical Technology curriculum which needs to be covered by progressing students.

7.2 Criteria for entry into the credit waiver system

The following shall guide the consideration for credit waiver/exemption;

- i) The candidates must have satisfied the general criteria of admission into Diploma in Pharmaceutical Technology programme as per the PPB guidelines.
- ii) Only PPB enrolled Diploma holders shall qualify for credit waiver/exemptions.
- iii) It shall be mandatory that, the student must have attained at least credit in their diploma for the purpose of admission to the course.
- iv) Waivers or exemptions shall only be given to each individual student after assessment of his/her application. No blanket waivers shall be given to a group of students by virtue of them having attained a diploma or any other qualification without application and assessment.
- v) Diploma in Pharmaceutical Technology holders may be considered for credit waivers from units/courses/subjects covered during the first year of B.pharm Programme.

- vi) In the event that there are any university- wide or specific first year Pharmacy courses that may not have been covered during Diploma programme, they should be taught in the course of the B. Pharm study programme.
- vii) For the purpose of this policy document, first year Bachelor of Pharmacy courses for which waivers may be given are Medical Physiology(I), Human Anatomy (I) Biochemistry(I), Chemistry(I), Mathematics, Communication skills, HIV & AIDS and Other Emerging Health Issues (PPB B. Pharm. Curriculum guide, 2008)
- viii) Higher National Diploma in Pharmacy (HND) holders may be granted advanced standing at the B.Pharm. Programme and (get waivers from year 1 and 2 courses/subjects/units) or may join the programme at the third year of study subject to university admission requirement and PPB directives.
- ix) For the purpose of this policy document, second year Bachelor of Pharmacy courses for which waivers may be given are Medical Physiology(11), Human Anatomy(11), Biochemistry(11), Chemistry(11), and Medical Microbiology (PPB B. Pharm. Curriculum guide, 2008).
- x) In the event that there are any university- wide or specific first and second year Pharmacy courses that may not have been covered during Diploma programme, they should be taught in the course of the Bachelor of Pharmacy study programme.
- xi) All assessment and evaluation examinations plus the grades achieved by the applicants shall be submitted by the university (referred to as submitting university) to the Registrar, PPB for concurrence before a decision on credit waiver application can be announced to the applicant.
- xii) The Applications shall be evaluated and a decision shall be communicated to the submitting University.
- xiii) Credit waivers/ exemptions shall not be given for clinical and pharmaceutical sciences(year 3, 4, and 5 courses/subjects/units- PPB B.Pharm. Curriculum guide, 2008).
- xiv) B.Pharm. graduates will be required to undertake a 1 year internship and be registered after successful passing PPB pre-registration examinations.

xv) Upon registration of the candidate, the enrolment number and certificate of the candidate stand cancelled.

7.3 Grading Systems

	GRADING RANGE	GRADE	KNEC GRADING	KNEC Performance	GPA System
	75 - 100	A	1 & 2	Pass with Distinction	4
	65 - 74	B	3 & 4	Pass with Credit	3
	50 - 64	C	5 & 6	Pass	2
	40 - 49	D	7	Referred	1
	< 48	F	8	Fail	0

GPA(Grade Point Average) = Total credit Point/ Total Credit factor

Total credit point = Total marks attained in an examination of a subject in a semester/ term

Total credit factor = Total number of hours a subject(s) are taught per week as stated in a curriculum

8 MODALITIES OF IMPLEMENTATION

It is envisaged that when the guideline has been tabled to the stakeholders and adopted, it is then noted by the Board's Training and Assessment Committee (TAC). The Board will eventually endorse this policy guideline as a requirement to be followed by all accredited pharmacy training institutions in Kenya.

The various accredited universities offering B. Pharm program should have completed at least one cycle before being allowed to implement this credit waiver systems and in compliance with Pharmacy and Poisons terms and conditions which might change from time to time

9. ANNEXES

ANNEX 1. PHARMACY TRAINING AND CURRICULUM

The mission of the Pharmacy and Poisons Board is to ensure the availability of the pharmaceutical services in Kenya, which satisfies the requirements of all, for the prevention, diagnosis and treatment of diseases using safe, efficacious, high quality and cost-effective pharmaceutical products.

Academic and professional qualifications and experience are prerequisites for Social, political and economic development as detailed in vision 2030.

The attainment of these objectives requires well-trained, high-motivated pharmaceutical personnel, whose input is critical in provision of quality healthcare.

This curriculum describes an organized programme for a Bachelor of pharmacy degree award, incorporating the duration of the academic programme, admission requirements, course structure and assessment process.

A. The B.Pharm Course Structure and Sequencing

Cluster 1 (Pre- Clinical)

- a) Mathematics subjects
- b) Communication Skills subjects
- c) Computer applications
- d) First Aid subjects
- e) Elements of economics
- f) Law in society

Cluster 2 (Pre- Clinical)

- a) Functional Human Anatomy
- b) Medical Physiology
- c) Mathematics and Biostatistics

- d) Biochemistry
- e) Chemistry (Physical, Inorganic & organic)
- f) Elements of Pharmaceutical Botany
- g) Microbiology

Cluster 3 (Clinical)

- a) Microbiology
- b) General pathology
- c) Pharmaceutics
- d) Pharmacology and Therapeutics
- e) Pharmaceutical Chemistry
- f) Social & Behavioural Pharmacy
- g) Pharmacognosy
- h) Clinical Pharmacy
- i) Pharmacy Management
- j) Pharmacy law & Ethics
- k) Electives
- l) Research Projects

Cluster 4

- a) Internship (one year)
- b) PPB Evaluation & Registration.

Cluster 5

- a) Pharmacist
- b) Consultants
- c) Pharmacist Specialist

B. Pharmaceutical Course Structure

- The curriculum outlines the learning outcomes, contents, instructional methods, equipments, materials and assessment tools.
- The PPB indicative Bachelor of Pharmacy programme consists of a structured academic programme, lecture attendance of specified modules and completion of all assessments.
- The course shall be conducted through lectures, laboratory practical, tutorials and seminars.

YEAR ONE

No	Code	Course Title	Units	Duration in hours	Exams
1		Medical Physiology	4	180	
2		Human Anatomy	2	90	
3		Biochemistry	5	225	
4		Chemistry	4	180	
5		Mathematics	2	90	
6.		Communication skills	1	45	
7.		HIV & AIDS and Other Emerging Health Issues	1	45	
8		Elements of Pharmaceutical botany			

YEAR TWO

	Code	Course Title	Units	Duration in hours	Exams
1		Medical Physiology	4	180	
2		Human Anatomy	3	135	
3		Biochemistry	4	180	
4		Chemistry	4	180	
5		Medical Microbiology	4	180	
6		Elements of Pharmaceutical botany			

YEAR THREE

No	Code	Course Title	Units	Duration in hours	Exams
1		Pharmacology & Therapeutics	3	135	
2		Pharmaceutical Chemistry	3	135	
3		Pharmaceutics	3	135	
4		Pharmacognosy (Ethno medicine)	3	135	
5		Pathology	4	180	
6		Social and Behavioral Pharmacy	2	90	

YEAR FOUR

No	Code	Course Title	Units	Duration in hours	Exams
1		Pharmacology and Therapeutics	4	180	
2		Pharmaceutical Chemistry	4	180	
3		Pharmaceutics	4	180	
4		Pharmacognosy (Ethno medicine)	3	135	
5		Pharmacy Management	3	135	
6		Clinical Pharmacy	3	90	

YEAR FIVE

	Code	Course Title	Units	Duration in hours	Exams
1.		Pharmacology and Therapeutics	4	180	
2.		Pharmaceutical Chemistry	4	180	
3.		Pharmaceutics	4	180	
4.		Clinical Pharmacy	3	135	
5.		Pharmacy Management	3	135	
6.		Health related laws, pharmacy law and professional ethics	2	90	
7.		Pharmacognosy (Ethno medicine)	1	45	
8.		Research Methods and Projects	4	180	

NOTE:

Course Structure

- The curriculum outlines the learning outcomes, contents, instructional methods, equipments and materials, and assessment tools.
- The PPB indicative Bachelor of Pharmacy Programme consists of a structured academic programme, lecture attendance of specified modules and completion of all assessments.
- The course shall be conducted through lectures, laboratory practical, tutorials and seminars.
- The code column represent the allocated and respective course subject code.

Grading of Marks in B. Pharm course

The grading system recommended herein is in line with Global trends.

The grading of marks should be as follows:

49% and below	FAIL (D)
50-59%	PASS (C)
60-69%	CREDIT (B)
70-100%	DISTINCTION (A)

The degree certificate to be accompanied with transcripts.

ANNEX 2. COMPARISON OF B.PHARM CONTACT HOURS AND DIPLOMA IN PHARMACEUTICAL TECHNOLOGY

For the purpose of credit waivers the PPB curricula of B. Pharm. and Diploma in Pharmaceutical Technology were discussed and the following were noted in the tables below:-

TABLE 1: CUMULATIVE CONTACT HOURS IN *PPB B.PHARM/PPB DIPLOMA* CURRICULA

Table 1A: Basic Sciences

SUBJECT	PPB B.Pharm CONTACT HRS	PPB. DIP CONTACT HRS	DIFFERENCE HRS
Chemistry	360	330	30
Biochemistry	405	99	306
Medical Physiology	360	132	228
Mathematics	90		90
Human Anatomy	225	99	126
Microbiology	180	99	81
Psychology			To do 45 Hrs
Computer Application/Communication		45	
Elements of Pharmaceutical	*specify		

Table 1B: Core Subjects

SUBJECT	PPB B.Pharm CONTACT HRS	PPB. DIP CONTACT HRS	DIFFERENCE
Pharmaceutics	495	243	252
Pharmacology	495	243	252
Microbiology	180	99	81
Pharmaceutical Chemistry	495	309	186
Pharmacognosy	315	99	216
Social & Behavioral Pharmacy	90	297	-209
Clinical Pharmacy	315	–	-315
Medicinal Chemistry	–	–	
Pathology	180		-180
Drug Supply Management	–	177	-177
Pharmacy Management	270		270
Veterinary Medicine	–	–	
Pharmacy Law & Ethics	90		90
Pharmacy practice	–	270	
Project	180	228	48

NOTES

- Two units of 45 hours each are to be examined in one university paper of 3 hours duration.
- Based on the number of units taught in Diploma course and B. Pharm. Course, it is noted that the diploma course has deficiencies in the content and depth in a number of subjects.
- Given that the enrolled Diploma holders seeking waivers/exemptions are those who attained credit and above, they may join B.Pharm programme at advanced standing and may join the B.Pharm programme in 2nd year in accordance with University admission requirements and PPB directives. In the event that there are any university-wide or specific 1st year Pharmacy courses that may not have been covered during the diploma programme they should be taught in the course of B.Pharm study.
- The gaps identified in Table 1b need to be covered by students progressing from Diploma to B.Pharm programme.

ANNEX 3: HIGHER NATIONAL DIPLOMA IN PHARMACY

Table 3 below is a comparative analysis of the core subjects studied by B. Pharm. Degree and Higher National Diploma students.

SUBJECT	PPB B.Pharm	PPB. DIP		HND	
	CONTACT HRS	CONTACT HRS	DIFF. in Hrs	CONTACT HRS for (HND only)	Cumulative Hrs HND
Pharmaceutics	495	243	252	90	333
Pharmacology	495	243	252	88	331
Pharmaceutical Chemistry	495	309	186	128 Hrs and as Pharmaceutical Analysis 48 Hrs (= 176 Hrs)	437 or 485
Pharmacognosy	315	99	216	As Botany 88 Hrs and Herbal Medicine 88 Hrs (176Hrs)	187 or 275
Social & Behavioural Pharmacy	90	297	-209	Nil	297
Clinical Pharmacy	315	–	-315	88	88

Medicinal Chemistry	–	–	–	Nil, (see Pharm Chem.)	437 Hrs as Pharm. Chem.
Pathology	180	–	-180	88	88
Drug Supply Management	Nil , Covered under Pharmacy mgt	177	-177	Nil	-177
Pharmacy Management	270	–	270	Nil	Nil
Veterinary Medicine	–	–	–	Nil	Nil
Pharmacy Law & Ethics	90	–	90	Nil	Nil
Pharmacy practice	–	270	–	Nil	Nil
Project	180	228	48	12 units** (540 Hrs)	
Research Design and Methodology	–	–	–	66 Hrs	66 Hrs
Toxicology	–	–	–	140 Hrs	140 Hrs
Statistics	Included in Maths	–	–	36 hrs	36 Hrs
Formulation & Pharmacokinetics	–	–	–	88 Hrs	88 Hrs
Microbiology	180	99	81	88 Hrs	187 Hrs
Management	–	–	–	120 Hrs	120 Hrs

- The holders of the Higher National diplomas in Pharmacy are considered to have successfully completed the ordinary level and have taken two years over and above ordinary diploma.
- It can be seen in the table 3 above that, whereas in a **few subjects**, the HND is a form of specialization, we have identified gaps in some subjects in terms of content and depth than the B. Pharm.
- Despite the deficiencies noted at the HND level, it is observed that the HND holders are obviously academically superior to the ordinary diploma holders in terms of content coverage.
- In order to address the deficiencies noted above, admitted candidates will have to be taught and assessed in the areas outlined in table 3.
- Also while recognising the prior learning (academic and professional experience), it is recommended that HND holders wishing to enrol for B. Pharm be granted **advanced standing** in the B. Pharm courses structure.
- The candidates will be required to comply with the criteria set out in diploma-B. Pharm admission
- The HND holders may join the B. Pharm programme at 3rd year of study in accordance with University admission requirements and PPB directives .In the event that there are any university-wide or specific 1st and 2nd year Pharmacy courses that may not have been covered during the diploma programme; they should be taught in the course of B. Pharm study.

Reference materials

1. PPB Bachelors of Pharmacy curriculum
2. Diploma in Pharmaceutical Technology curriculum
3. UON Bachelor of Pharmacy curriculum
4. Kenya National Pharmaceutical Policy (Sessional paper No. 4, 2012)
5. Health Policy framework, Kenya 2012
6. Credit Accumulation and Transfer System for East Africa (CATS East Africa)
7. Kinyanjui report, 2006
8. Kamunge report, 1988, 2005
9. Vision 2030
10. The constitution of Kenya, 2010
11. Millennium Development Goals
12. Sessional paper No. 1, 2005