i] COLLEGE OF AGRICULTURE AND VETERINARY SCIENCES

Principal:	Prof. Rose A. Nyikal, BSc, MSc, PhD, (Nairobi) (Ag.)
College Registrar/Secretary:	Mr. K.K. Mbali, BA, (Nairobi), MA, (Leeds), AMIPMK
College Bursar:	Kirwa, S.K., CPA (K), BCom (Finance), MBA (Finance)

COLLEGE BRIEF

The College of Agriculture and Veterinary Sciences was established in 1985 by the University of Nairobi Act (*now appealed under the Universities Act 2012 and University of Nairobi Charter*). It is situated about 14 kilometers to the north-western city boundary off Kapenguria Road. The College comprises two faculties and two institutes; namely, Faculty of Agriculture, Faculty of Veterinary Medicine and Wangari Maathai Institute for Peace and Environmental Studies (WMI) and African Dryland Institute for Sustainability.

FACULTY OF AGRICULTURE

Dean of Faculty: Prof. George N. Chemining'wa, BSc, MSc, (Nairobi), PhD, (Manitoba)
Associate Dean: Prof. Rose A. Nyikal, BSc, MSc, PhD, (Nairobi)
Assistant Registrar: D. Gitonga, BA, (KU), MSc, HRM, (JKUAT), CPS(K)

The Faculty of Agriculture opened its doors to its first 41 students in the 1970/1971 session with the following departments:-

1. Agricultural Economics
2. Applied Plant Science
3. Crop Production
4. Entomology
5. Soil Science

Since then, other departments have been established, transferred or merged. In 1974 the Departments of Applied Plant Science and Crop Production were merged to form the Department of Crop Science which has been renamed Department of Plant Science and Crop Protection. At the same time, Department of Food Science and Nutrition, Department of Agricultural Mechanisation and Farm Planning (later named Agricultural Engineering and now Department of Environmental and Biosystems Engineering) were created.

THE CURRENT DEPARTMENTS IN THE FACULTY:

1. Department of Agricultural Economics
2. Department of Plant Science and Crop Protection
3. Department of Food Science, Nutrition and Technology
4. Department of Land Resource Management and Agricultural Technology (LARMAT)
5. Department of Animal Production (constituent)

UNDERGRADUATE PROGRAMMES

REGULATIONS AND SYLLABUS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE

1. Introduction

Agricultural faculties in Kenya and the world over have the responsibility of providing client-responsive and focused education that is based on effective and up-to-date curricula. In recent times, agricultural production systems have become increasingly more intensive and susceptible to adverse effects of climatic variability and changes in local, regional and global markets. In addition, the local, regional and global food situation is grim due to increased demand and the increasing use of staple food crops as alternative energy sources. There is therefore need for graduates who can effectively generate and promote technologies, strategies and services that enhance agricultural productivity and quality while preserving the environment as envisaged in Kenya's vision 2030 and the Agricultural Sector Development Strategy. The Bachelor of Science in Agriculture programme is a rigorous and broad-based curriculum designed to produce graduates who through extension, teaching, research, or consultancy will provide technical services in agribusiness, agricultural policy formulation, animal production, crop and land management, and environmental protection.

The Bachelor of Science in Agriculture degree programme has continuously been reviewed to incorporate new trends in industry. A review process for this curriculum was therefore constituted to address specific challenges experienced in its implementation, incorporate relevant recent developments in agricultural, food and environmental sciences and harmonize regulations with other recently approved curricula in the Faculty. This exercise involved active engagement with key stakeholders including students, academic staff and employers of BSc. Agriculture graduates.

In the current review, the broad structure of the BSc. Agriculture curriculum has been retained. The first two years of study will be spent on core courses which ground the students in the related basic sciences and the fundamentals of the professional agricultural disciplines (i.e. agricultural economics, animal science, crop protection, crop science and soil science). In the third year of study, the students will opt and specialize in any of the following majors: Crop Science, Crop Protection,

Land Resource Management, Animal Science and Agricultural Economics). The former Soil Science option was integrated into Land Resource Management option. The respective majors will appear on students' transcripts and degree certificates (e.g. BSc. Agriculture-Crop Science major).

Experiential learning is emphasized in the current curriculum. Practicals have been included for most of the courses and firm attachment period increased from the current 8 weeks to 12 weeks. The inclusion of the score for special projects in degree classification in the curriculum under review motivated the students to take the projects seriously. To further strengthen the gains from experiential learning, the marks for oral presentation of the project results have been increased from 10% to 30% of the total mark, while the special project report shall constitute 40%. In addition, practicals/field reports will constitute 15% of the continuous assessments tests while written tests will constitute 15%.

The following are some of the other changes that were made on the curriculum:

1. Open, distance and e-learning (ODEL) mode of delivery has been introduced to widen the clientele base
2. The sequencing of courses has been harmonized with the other curricula in the Faculty to ensure efficient use of staff.
3. Courses in climate change, ecosystem sustainability, genomics and molecular breeding, international trade and food and nutrition security were included to address current market and environmental needs.
4. The number of courses has been consolidated to a maximum of seven courses per semester in the fourth year of study to enhance self study and enable students to spend more time on the special projects.

2. COURSE OBJECTIVES

The programme objective is to produce competent graduates in agricultural sciences and environmental management with adequate knowledge and skills to effectively exploit agricultural research and development opportunities. This objective will be achieved through the majors mentioned below.

2.1 Agricultural Economics Major

The objective of this major is to produce graduates with the knowledge and skills for efficient and sustainable use of agricultural resources. Therefore, students branching into Agricultural Economics Major after two years of general grounding in agriculture will:

a) Acquire the knowledge of economic disciplines to have an integrated approach to understanding agricultural and environmental problems.
b) Apply the skills of the discipline in solving agricultural and environmental problems as managers in enterprises that use these resources or in research, extension and education.

2.2 Crop Science Major

The objective of this major is to produce graduates with the knowledge and skills to effectively address all aspects of crop management, crop improvement and postharvest handling. On completion, the Crop Science Major programme graduates will have the competence to:

a) Contribute to improvement of crop productivity through research, extension and training
b) Contribute to setting up and running of crop products enterprises.
c) Promote domestic, urban and institutional landscapes through design, development and maintenance.
d) Promote environmental conservation.

2.3 Crop Protection Major

The objective of this major is to produce graduates with knowledge and skills to effectively address all aspects of crop protection and integrated pest management. On completion, the Crop Protection Major programme graduates will have the competence to:

a) Offer advisory services in the design and execution of crop protection strategies
b) Address all aspects of safe use, handling, disposal and evaluation of pesticides.
c) Contribute to setting up and running of crop protection enterprises.

2.4 Animal Science Major

The objective of this major is to produce graduates with knowledge and skills to effectively address all aspects of livestock management, livestock improvement and value addition. On completion, the Animal Science Major programme graduates will have the competence to:

a) To effectively address all aspects of livestock development from a multidisciplinary point of view

b) Promote sustainable livestock production in all agro-ecological zones
c) Contribute to setting up and running of livestock products enterprises.
d) Promote environmental conservation in the livestock sector.

2.5 Land Resource Management Major

The objective of this major is to produce graduates with the knowledge and skills to effectively manage land resources. On completion, the Land Resource Management Major graduates will have the competence to:

a) Promote sustainable land and water management for increased agricultural production and environmental protection
b) Contribute to prevention and alleviation of land degradation
c) Provide leadership in the implementation of the national policies relating to natural resource management

3. ENTRY REQUIREMENTS

Entry requirements for the degree of Bachelor of Science in Agriculture shall be:

a) Holders of KCSE with mean grade of C+ with passes at C or above in Biology, Chemistry, Mathematics or Physics or Geography, and one of the following subjects:-
English, Kiswahili, Physics (*if not included above*), History and Government, Geography (*if not included above*), CRE, Computer Studies, German, Music, Islamic Religious Education, Hindu Religious Education, Home Science, Art & Design, Agriculture, Aviation Technology, French, Arabic, Business Studies.
b) Holders of KACE or equivalent with minimum 2 Principal Passes in Biology and Chemistry and at least a subsidiary pass in Mathematics or Physics. If Mathematics or Physics was not offered at KACE, then it is accepted at Ordinary Level but with a minimum of a Credit Pass.
c) Holders of KCSE mean grade C and a Diploma from an institution recognized by the senate.
d) Holders of KCSE mean grade C- and certificate and diploma from an institution recognized by the senate.
e) Holders of a degree in biological sciences or related sciences from a university recognized by the senate

DEPARTMENT OF AGRICULTURAL ECONOMICS

REVISED REGULATIONS AND SYLLABUS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

1.0 INTRODUCTION

Agriculture is the backbone of Kenya's economy. It contributes about 30% of the GDP and provides income to over 70% of the population. However, the sector continues to face many challenges, one of them being lack of skilled manpower. There is need for manpower which can effectively generate and promote technologies, strategies and services that can enhance agricultural productivity and quality while preserving the environment as envisaged in Kenya`s Vision 2030 and as spelt out in the Agricultural Sector Development Strategy (ASDS). The degree in Agricultural Education and Extension will prepare graduates for education and leadership positions in agriculture including teaching in schools and colleges. Currently, agricultural education teachers are needed in primary, secondary and tertiary institutions to impart students with these important skills related to agricultural systems. The curriculum is fairly broad and offers many career opportunities in education and agriculture. The department of Agricultural Economics collaborates with School of Education, Kikuyu campus and other faculties in implementing this programme.

2.0 COURSE OBJECTIVES

The specific objectives are to:

i) Equip learners with knowledge and skills to teach agriculture and other biological courses in schools, teacher training colleges, and agricultural institutions.
ii) Equip learners with leadership skills for transformative leadership in agricultural Education and extension sector.
iii) Provide students with requisite capacity to design and conduct research in agricultural Education and extension.
iv) Equip learners with knowledge and skills necessary for effective information and service delivery in agricultural sector.

3.0 ENTRY REQUIREMENTS

3.1 K.C.S.E Candidates

In addition to satisfying the minimum University entrance requirements, admission to the degree course may be granted to the following candidates:

a) Holders of KCSE with a mean grade C+ (Plus) or equivalent from a recognized institution;

b) Holders of KCSE with a mean grade C- (Minus) or equivalent plus a certificate and Diploma.

3.2 Other Candidates

Admission to this degree course may also be granted to the following candidates:

c) Holders of O-level Division II or equivalent plus a Diploma from a recognized institution;

d) Holders of O-level Division III or equivalent plus a Certificate and Diploma from a recognized institution;

e) Holders of O-level Division III or equivalent plus a three year Diploma from a recognized post secondary institution;

f) Diploma from the University of Nairobi or any other from a recognized institution and an aggregate of C in KCSE or equivalent;

g) A-level with minimum 2 principal passes and 1 Subsidiary or equivalent in relevant subjects;

h) CPAII/CPSII/CIPS or equivalent for Commerce and Arts with an aggregate of C in KCSE or O-level Division III;

i) Holders of Primary-one (P1) certificate from a recognized post-secondary training institution;

j) Higher National Diploma in relevant fields and should have attained an aggregate of C in KCSE;

k) Holders of a degree in biological or related sciences from a recognized university;

l) Candidates wishing to become graduate teachers should have attained a minimum KCSE mean grade C+ (Plus) or equivalent in Mathematics and Biology;

m) Holders of equivalent qualifications to the above from institutions recognized by the University of Nairobi Senate.

BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT

1.0 ENTRY REQUIREMENTS

1.1 KCSE Candidates

In addition to satisfying the minimum University requirements of mean grade of C+, the candidates should also posses passes at C+ or above in Biology or Biological Sciences, Physics and Chemistry or Physical Sciences and Mathematics. In order to satisfy the cluster of four subjects, for candidates offering Physical and Biological Sciences the fourth subject may be selected from the following subjects.

Geography	-	Building Construction
Home Science	-	Power Mechanics
Agriculture	-	Electricity
Wood work	-	Drawing and Design
Metal work	-	Aviation Technology

1.2 Other Candidates: (for self-sponsored)

Admission to the degree course may also be granted to the following candidates:

a) Holders of KACE with two Principal level passes one of which must be in mathematics

b) Holders of diploma from recognized agricultural or veterinary college with passes at credit or distinction.

c) Holder of a degree from a recognized University.

d) Holder of a Higher National Diploma from a recognized institution.

MODULE II ADMISSION CRITERIA

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION DEGREE PROGRAMME

Admission to Bachelor of Science in Agricultural Education and Extension Degree Programme shall be based on any one of the following minimum qualifications:

i) KCSE mean grade C+ or equivalent.

ii) KCSE mean grade C- or equivalent plus a Certificate and Diploma.

iii) 'O' Level Division II or equivalent plus a Diploma

iv) 'O' Level Division III or equivalent plus a Certificate and Diploma

v) 'O' Level Division III or equivalent plus a three-year Diploma from a recognized post secondary institution for admissions to Bachelor of Science in Agricultural Education and Extension.

vi) Diploma from University of Nairobi or other recognized institutions and an aggregate of C in KCSE or equivalent.
vii) 'A' Level with two principal passes, is or equivalent in relevant subjects.
viii) CPA II/CPS II/CIPS or equivalent for Commerce and Arts and should have attained an aggregate of C in KCSE or 'O' Level Division III.
ix) P1 from a two-year post secondary training institution for entry into Bachelor of Science in Agricultural Education and Extension.
x) Higher National Diploma in relevant fields and should have attained an aggregate of C in KCSE.
xi) Degree from a recognized University.
xii) Equivalent qualifications to the above from institutions recognized by Senate.

REGULATIONS AND SYLLABUS FOR THE POSTGRADUATE DIPLOMA PROGRAMME IN AGRICULTURAL INFORMATION AND COMMUNICATION MANAGEMENT

1.0 INTRODUCTION

Postgraduate Diploma in Agricultural Information and Communication Management (AICM) is in response to the training gaps identified during the training needs assessment that the Regional Agricultural Information Network and the Association for Strengthening Agricultural Research in East and Central Africa (RAIN/ASARECA) undertook in 2005. The Postgraduate Diploma (PGD) programme mainly targets agricultural and related professionals who are already employed but would like to have formal training of up to one year in AICM as an additional specialization to their already established career. The main purpose of the postgraduate diploma programme in AICM is to enhance competency of professionals in agricultural areas and other development workers in managing and communicating agricultural information for accelerated development and poverty reduction and to strengthen the capacity of the university to provide high level education and research services both in the agricultural and national development. The objectives of the course will be to:

1. Produce agricultural Information and Communication Management personnel with competency to develop and operate agricultural information systems to carry out research and to identify the needs and problems of different agricultural information users and provide Information Communication Technology/Information Communication Management (ICT/ICM) support to agricultural and related professionals.
2. Enhance professional careers and competency of researchers, academicians, students, policymakers and members of the civil society, through interventions in Agricultural information and communication management.
3. Strengthen the capacity of the tertiary institutions to train agricultural information communication management professionals and provide research and consultancy services in technology diffusion and uptake.

2.0 ENTRY REQUIREMENTS

The common regulations governing postgraduate diploma in all Faculties/Institutes/Schools of the University of Nairobi shall apply. The minimum requirements for eligibility into the postgraduate Diploma in AICM are:

1. Holders of at least upper second class Honours degree or equivalent in any discipline from a university recognized by senate.
2. Holders of at least lower second class Honours degree or equivalent in any discipline from a university recognized by senate with at least two years relevant experience.
3. Holders of a pass degree or equivalent in any discipline from a university recognized by senate with at least 3 years relevant experience.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURAL AND APPLIED ECONOMICS

1.0 INTRODUCTION

The Master of Science programme in Agricultural and Applied Economics involves collaboration of sixteen universities in the Eastern, Central and Southern Africa region. Its underlying premise is the need for highly trained local professionals to address the challenges posed by far reaching changes in global and local economies, technology, and marketing, by adapting their advanced knowledge and methods to the particular institutional, political and economic circumstances of the region. The growing economies need professionals whose skills will range from analysing the implications of changes in trade and macroeconomic policy to studying the performance of local markets for agricultural products, services and inputs. Others will be working with scientists to determine the economic as well as technical feasibility of new products and processes.

2.0 COURSE OBJECTIVES:

i) Expose students to current issues in agricultural and applied economics.

ii) Equip professionals with knowledge and skills essential for transforming the agro-food sectors and rural economies of the region in an environmentally sustainable fashion.

iii) Conform to international **"best practices"** while adapting skills to the region's specific features. Of particular note is the challenge posed by shortcomings in institutions, markets and public policy.

The programme will offer students the opportunity to undertake specialized study in any one of the following four fields: Agriculture and Rural Development, Agricultural Policy and Trade, Agribusiness Management, and Environment and Natural Resource Management.

3.0 ENTRY REQUIREMENTS

3.1 The common regulations governing Masters programmes in all faculties, institutes and schools shall apply.

3.2 Applications will be considered from graduates in any field and professionals in mid-career, provided they satisfy prerequisites considered necessary to succeed in a rigorous program of study and research.

3.3 The following shall be eligible for admission:

3.3.1 Holders of at least an Upper Second Class Honours degree or equivalent qualification in Agriculture, Food Science, and Range Management or in any other subject area judged relevant from a University recognized by Senate.

3.3.2 Holders of Lower Second Class Honours degree in the same disciplines as 2.3.1 from the University of Nairobi or from another University recognized by in Senate, with at least two years relevant research experience, with supporting publications.

3.3.3 Holders of a Pass degree in the same disciplines as in 3.3.1 and a relevant postgraduate diploma from a recognized University or at least five years of field experience and evidence of research publication since graduation.

3.3.4 Holders of equivalent qualifications from other Universities recognized by the University of Nairobi senate.

MASTER OF SCIENCE IN AGRICULTURAL ECONOMICS DEGREE

1. INTRODUCTION

The MSc. (Agricultural Economics) programme is offered by the Department of Agricultural Economics and is designed to give students a firm grounding in Economic Theory, Quantitative Methods and the following main disciplinary fields of Agricultural Economics:

a) Farm Management and Production Economics

b) Agricultural Marketing and International Trade

c) Development Economics

d) Rural Development and Agricultural Policy

2. ENTRY REQUIREMENTS

2.1 The common regulations for the Masters degrees in all Faculties shall be applicable.

2.2 The following shall be eligible for registration for the degree of Master of Science in Agricultural Economics:

2.2.1 Either the holders of a Bachelors degree in Agriculture, Food Science, Range Management, Commerce, Economics or any other subject area from the University of Nairobi that the Department of Agricultural Economics may judge to be relevant for the programme and is acceptable to the Senate of the University of Nairobi; or

2.2.2 Holders of equivalent degrees or qualifications from other universities recognized by the Senate of the University of Nairobi as being of comparable academic status.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURAL INFORMATION AND COMMUNICATION MANAGEMENT

1.0. INTRODUCTION

Agricultural Information and Communication Management Programme at postgraduate level was strongly supported by the findings of a training needs assessment undertaken by Regional Agricultural Information Network (RAIN) in 2005. The National stakeholders workshop on the AICM postgraduate programmes (MSc. and PGD) adopted the following findings by RAIN/ASARECA and the Regional Taskforce:

1. It was established that agricultural professionals of all cadres in the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) region with Agricultural Information and Communication Management (AICM) skills are few or lacking. More specifically, agricultural researchers, educators and technologists in National Agricultural Research Systems, universities and extension services lack skills that can make them self-sufficient in meeting basic information needs to generate and disseminate technology.
2. Agricultural research results are not effectively transmitted to the international research community. As a result, African concerns do not drive the international research agenda. The rate of scientific journals published in Africa, therefore, is quite low and insignificant in the world research arena. There is also a scarcity of trained professional scientific editors capable of assisting scientists in the region to get their research findings published in international peer refereed journals.
3. Existing university programmes do not have adequate Information and Communication Technology/Information and Communication Management (ICT/ICM) content, explaining the low ICT/ICM competency among graduates.
4. There is a growing recognition that ICM is an emerging profession in development.

The programme targets graduates from a variety of backgrounds and specialization including agricultural and related sciences, the biological sciences, information and communication science, information technology and social sciences. AICM also provides for admission of mid career candidates with relevant experience in their relevant areas of specialization.

The aim of AICM program is to enhance the competency of professionals in the agricultural field and other development workers in managing and communicating agricultural information for accelerated development and poverty reduction, and to strengthen the capacity of universities to provide high – level education and research services in AICM.

2.0 COURSE OBJECTIVES:

1. Build capacity at the MSc level with competence to develop and operate agricultural information systems, carry out research to identify the needs and problems of the different agricultural information users, and provide professional AICM support to the agricultural and related professionals
2. Enhance professional careers and competence of researchers, academicians, students, policy makers and members of the civil society through interventions in agricultural information and communication management.
3. Strengthen the capacity of university to train AICM professionals and to provide research and consultancy services in technology diffusion and uptake.

3.0 ENTRY REQUIREMENTS

The common regulations for the Masters degrees in all faculties of the University of Nairobi shall apply. The following shall be eligible for admission into the Master of Science in AICM programme:

3.1 Holders of at least upper second class honours degree or equivalent in any discipline from a university recognized by senate.

3.2 Holders of at least lower second class honours degree or equivalent in any discipline from a university recognized by senate with at least two years relevant experience.

3.3 Holders of pass degree and Postgraduate diploma or equivalent in any discipline from a university recognized by senate.

3.4 Holders of pass degree with five years relevant experience.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURAL RESOURCE MANAGEMENT

1.0 INTRODUCTION

The Faculty of Agriculture has been offering training for MSc. degree in the specialized areas of Agriculture such as agronomy, horticulture, plant breeding, agricultural economics, animal production, food science and technology, land and water management, plant pathology and crop protection. The qualified persons have played strategic roles in the development of the Agricultural Industry in the region. Agricultural research requires training in specialized areas because enough depth of coverage in agricultural science and its application will have been made to facilitate effective performance by the graduate. There is a growing need in the industry for graduates who take a holistic approach to solving agricultural problems especially in the tropical and subtropical countries. The public agricultural extension service, private sector, Non Governmental Organizations find it more expensive to hire a multiple of professionals rather than one individual to solve multifaceted agricultural problems. It was for the foregoing reasons that the degree of MSc. in

Agricultural Resource Management was developed. The programme is intended to produce agricultural resource managers with broad-based training in all aspects of agriculture and natural resource management.

The revised MSc. in Agricultural Resource Management curriculum has introduced flexibility in the mode of delivery and it is harmonized with other Masters programmes in the Faculty of Agriculture. Open and distance learning mode is preferred by employers and the self employed since it allows students to undertake training while still on the job. The revised curriculum is therefore, designed to offer client-friendly training in agricultural resource management to produce graduates who are well prepared and equipped for the modern job market.

2.0 COURSE OBJECTIVES

i) To use a holistic approach to provision of skills needed in agricultural research and solving agricultural problems in the region.

ii) To contribute to advancement of agricultural science and natural resource management.

3.0 ENTRY REQUIREMENTS

The common regulations for the Masters degrees in all faculties of the University of Nairobi shall apply. The following shall be eligible for admission to the Master of Science in Agricultural Resource Management:

2.1 A holder of Bachelor of Science degree with at least Upper Second Class Honours or equivalent in Agricultural Science, Biological Science, Environmental Science, Forestry and other relevant disciplines from the University of Nairobi or any other equivalent institutions recognized by Senate.

2.2 A holder of a Bachelor's degree, of Lower Second Class Honours in any of the degree categories specified in (2.1) above with a relevant Postgraduate Diploma or other equivalent qualifications from the University of Nairobi or any other equivalent institution recognized by Senate or with at least two years relevant work experience.

2.3 A holder of pass degree in any of the degree categories specified in (2.1) above with a relevant Postgraduate Diploma or other equivalent qualifications from the University of Nairobi or any other equivalent institution recognized by Senate, and at least two years of relevant work experience

2.4. A holder of pass degree in any of the degree categories specified in (2.1) above with at least five years relevant work experience.

STAFF LIST
Chairman of Department:
Mburu, J., BSc, (Nairobi), MSc, (Goettingen) PhD, (Goettingen)
Professor:
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Busienei, J., BSc, MSc, PhD, (Nairobi)
Ngang'a, Hillary
Tutorial Fellow:
Chimoita, Evans
Babu, Mary

DEPARTMENT OF LAND RESOURCE MANAGEMENT AND AGRICULTURAL TECHNOLOGY

BACHELOR OF SCIENCE IN RANGE MANAGEMENT

1.0 ENTRY REQUIREMENTS

1.1 K.C.S.E Candidates

In addition to satisfying the minimum University entrance requirements, the candidate should also offer passes at C+ or above in Biology or Biological Sciences, Physics and Chemistry or Physical Science and in Mathematics. In order to satisfy the cluster of four subjects, for candidates offering Physical and Biological Sciences, the fourth subject may be selected from the following:

i) Geography Home Science Agriculture Wood work Metal work Building Construction Power Mechanics Electricity Drawing and Design Aviation Technology

ii) Candidates who satisfy the minimum University entrance requirements, but have a C plain in Biology or Biological Sciences, Physics and Chemistry or Physical Sciences and Mathematics shall be eligible for admission after taking and passing bridging courses in these subjects offered by the University of Nairobi.

1.2 Other Candidates

Admission to the degree course may also be granted to the following candidates:

a) Holders of KACE or equivalent with minimum 2 principal passes in Biology and Chemistry and at least a subsidiary pass in Mathematics. If Mathematics was not offered at KACE, then it is accepted at Ordinary Level but with a minimum of a credit or above.

b) Holders of a Diploma in Agriculture or related equivalent from a recognized institution with pass at credit or distinction. Candidates with a pass with two years or more relevant working experience.

c) Holders of a Higher National Diploma or equivalent in biological sciences and other related sciences from a recognized institution.

d) Holders of credit pass Ordinary Diploma in biological sciences or related sciences from a recognized institution.

e) Holders of a degree in biological sciences or related sciences from a recognized university.

BACHELOR OF SCIENCE IN MANAGEMENT OF AGRO-ECOSYSTEMS AND ENVIRONMENT

1.0 INTRODUCTION

As agricultural production shifts more towards intensively controlled systems and with stringent biosafety requirements, training that focus on environmentally friendly and sustainable technologies and practices take Centre stage. There is need, therefore, for graduates with technological and managerial skills on environmental issues related to agriculture. The Bachelor of Science in Management of Agro-ecosystems and Environment (BSc. MAE) degree programme would enable graduates to assess and solve environmental problems as managers in diverse fields dealing with or related to agroecosystems. The programme aims to equip students with the scientific knowledge and skills required to tackle technical issues on management of agriculture-related aspects in the environment such as reduction or control of degradation and pollution, and promotion of environmentally acceptable and sustainable production practices.

The degree programme offers a rigorous science-based curriculum that focuses on two major issues:

i) ecological management of agricultural land

ii) abatement of resources degradation or pollution of developed rural land. The focus of the programme is on principles and practices of agroecology, agricultural land degradation and understanding the fate and mitigation of pollution, including those processes that influence the impact of pollution in agroecosystems. It concentrates on sustainable management of resources in agriculture and focuses on water and soil quality management, such as monitoring transport and storage of agrochemicals and other contaminants in soil, bioremediation and organic wastes recycling and bioconversion. The programme prepares graduates who would pursue postgraduate studies in a variety of disciplines or employment in training and research institutions, government, agro-industries, NGOs and consulting firms.

The following minor revisions have been carried out to strengthen the content and streamline its implementation alongside other programmes in the Faculty of Agriculture:

a) To avoid duplication in the teaching of the core common courses in the Faculty, students to take similar courses offered under BSc. Agriculture programme as detailed in Section 8.
b) Focus and put emphasis on principles and practices of agroecology instead of the general principles of ecology.
c) To address the current market needs and environmental challenges, include courses in organic farming, modeling of agroecosystems and climate change.

2.0 COURSE OBJECTIVES

The aim of the programme is to provide training on environmental management so as to enable graduates assess and solve environmental problems in diverse fields such as agriculture, natural resources management, civil and public health management and manufacturing industries among others. Through extension, teaching, research or consultancy, the professionals produced will:

a) Enhance sustainable natural resources management for increased agricultural production and environmental protection
b) Assess the impact on the environment arising from natural resources utilization
c) Combat pollution and degradation of rural and peri-urban land and water resources
d) Contribute to research and technological innovations in agriculture and environment
e) Contribute to the implementation of the national policies relating to sustainable agriculture and natural resource management.

3.0 ENTRY REQUIREMENTS

3.1 K.C.S.E Candidates

In addition to satisfying the minimum University entrance requirements, the candidate should also have passes at C or above in Biology or Biological Sciences, Physics and Chemistry or Physical Science and in Mathematics. In order to satisfy the cluster of four subjects, for candidates offering Physical and Biological Sciences, the fourth subject may be selected from the following:

- Geography
- Home Science
- Agriculture
- Aviation Technology
- Business Studies
- Power Mechanics
- Computer Science
- Wood work
- Drawing and Design
- Metal work

3.2 Other Candidates

Admission to the degree course may also be granted to the following candidates:

a) Holders of KACE or equivalent with minimum 2 principal passes in Biology and Chemistry and at least a subsidiary pass in Mathematics. If Mathematics was not offered at KACE, then it is accepted at Ordinary Level but with a minimum of a credit or above.
b) Holders of a Diploma in Agriculture or related equivalent from a recognized institution with pass at credit or distinction. Candidates with a pass with two years or more relevant working experience.
c) Holders of a Higher National Diploma or equivalent in biological sciences and other related sciences from a recognized institution.
d) Holders of credit pass Ordinary Diploma in biological sciences or related sciences from a recognized institution.
e) Holders of a degree in biological sciences or related sciences from a recognized university.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN SOIL SCIENCE

1.0 INTRODUCTION

The MSc. course in Soil Science takes a minimum of two years to complete. Two semesters are devoted to course work with a minimum of 495 contact hours. The course work is assessed by continuous assessment tests, term papers, seminar presentations, and a final examination. Each course unit shall be graded independently out of 100 marks. The remaining 12 months are devoted to project work which is expected to culminate in the writing of a thesis.

2.0 ENTRY REQUIREMENTS

2.1 The common regulations for the Master's degrees of the University of Nairobi and Faculty of Agriculture shall apply.
2.2 The following shall be eligible for admission into the Master of Science degree in Soil Science.
2.2.1 Holders of a Bachelor of Science degree with at least Upper Second Class Honours in Agricultural Science, Biological Science, Environmental Science, Forestry or other relevant disciplines from the University of Nairobi or any other institutions recognized by Senate.

2.2.2 Holders of a Bachelor of Science degree with Lower Second Class Honours in any of the degree categories specified in 2.2.1 above with at least two years relevant experience as evidenced by publications, or relevant post-graduate diploma or an equivalent qualification from the University of Nairobi or any other institution recognized by Senate.

2.2.3 Holders of a pass Bachelor's degree in disciplines specified in 2.2.1 and a postgraduate diploma in relevant areas.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN SUSTAINABLE SOIL RESOURCE MANAGEMENT

1.0 INTRODUCTION

Agricultural intensification in response to population growth and concomitant increase in food demand has placed pressure on soil, water and other natural resources. For agricultural systems and all land uses to be sustainable, a well functioning soil resource is imperative. Judicious use of soil resources, based on its potential is thus essential for an economically viable and ecologically sound agriculture.

The soil resource, particularly in Sub-Saharan Africa, has been over exploited with resultant severe problems of degradation manifested in accelerated soil erosion and deterioration of soil physical, chemical and biological fertility. These problems needs to be urgently addressed in order to reverse the rate of soil resource deterioration while conserving the environment, both of which are important factors in enhancing the growth and health of plants and animals. Investment in human capital, through training relevant cadre of graduates, is key to sustainable soil resource management. Soils are central to a whole range of extremely important ecosystem services that may soon receive a real market value, particularly in fields that deal with renewable energy, climate change, biodiversity and economic development.

The new programme is being inaugurated to meet the need for training and research in strategies for enhancing productivity and sustainability of soil as a natural resource. This is in addition to addressing the current and emerging challenges in sustainable soil resource and environmental management. To this end, topics that are critically important in realizing sustainable soil resource management have been integrated in the current programme. The design of the programme therefore includes stakeholders' views that were captured by questionnaires administered to organizations and personnel involved in soil resource management. These include introduction of flexibility in the mode of delivery and incorporation of new topics to address the emerging issues and changing job market requirements.

More specifically, the new programme offers content that addresses current technical, planning, socio-economic and policy aspects of sustainable soil resource management, with the aim of providing a comprehensive, coordinated approach to developing management strategies designed to restore, enhance, and protect the soil resource. It is expected that the graduates of the sustainable soil resource management programme will acquire knowledge and conceptual skills that will enable them to address the many complex challenges in increasing the productivity and sustainability of the soil resource.

2.0 THE OBJECTIVE

The programme is to produce professionals equipped with knowledge and skills that will enable them to undertake the following:

i) Carry out extension and teaching or consultancy work in sustainable soil resource and environment management.

ii) Contribute towards improved soil productivity through appropriate and sustainable agricultural production technologies.

iii) Carry out research in sustainable soil resource management technologies and innovations.

iv) Contribute to the development, implementation and enforcement of relevant policies relating to sustainable soil resource management.

3.0 ENTRY REQUIREMENTS

The common regulations for the Masters degrees in all faculties of the University of Nairobi shall apply. The following shall be eligible for admission to the degree of Master of Science in Sustainable Soil Resource Management

3.1 A holder of Bachelor of Science degree with at least Upper Second Class Honours or equivalent in Agricultural Science, Biological Science, Environmental Science, Forestry and any other relevant disciplines from the University of Nairobi or any other equivalent institutions recognized by Senate.

3.2 A holder of a Bachelor's degree, of Lower Second Class Honours in any of the degree categories specified in (3.1) above with a relevant Postgraduate Diploma or other equivalent qualifications from the University of Nairobi or any other equivalent institution recognized by Senate or with at least two years relevant work experience.

3.3 A holder of pass degree in any of the degree categories specified in (3.1) above with a relevant Postgraduate Diploma or other equivalent qualifications from the University of Nairobi or any other equivalent institution recognized by Senate, and at least two years of relevant work experience

3.4. A holder of pass degree in any of the degree categories specified in (3.1) above with at least five years relevant work experience.

MASTER OF SCIENCE IN RANGE MANAGEMENT

1.0 ENTRY REQUIREMENTS

1.1 The common regulations governing Masters Degrees in all faculties of the University of Nairobi shall apply.

1.2 Holders of a Bachelor of Science degree with at least an Upper Second Class Honours in Range Management, Wildlife Management, Forestry, Agriculture, Environmental Science, Animal Science, or an equivalent qualification form an institution recognized by Senate.

1.3 Holders of a Bachelor of Science degree with Lower Second Class Honours in any of the areas specified in (1.2) above, but with at least two years relevant research work experience evidenced by publications, or a postgraduate diploma in any of the areas listed in (1.2) above or an equivalent qualification from an institution from an institution recognized by Senate.

1.4 Holders of a relevant Bachelor of Science degree with a pass plus a post-graduate diploma in Rangeland Resource Management may be considered.

REGULATIONS AND CURRICULUM FOR THE DEGREE OF MASTER OF SCIENCE IN LAND AND WATER MANAGEMENT

1.0 INTRODUCTION

Background

Accelerated land degradation and desertification through soil erosion, depletion of soil fertility, overstocking, deforestation and poor management of water resources are issues of great concern. The Master of Science in Land and Water Management was launched in 1986 to meet the need for training and research in strategies for enhancing productivity and sustainability of land and water resources. However, since its inception, the programme has never been revised and updated to meet the current and emerging challenges in land resources and environmental management.

The revised programme has updated and expanded the content to provide essential new coverage of topics critically important to meet current and emerging challenges in land and water management such as intensification of resource use, carbon sequestration in agroecosystems, global warming and climate change. More specifically, the revised programme offers content that addresses current technical, planning, socio-economic and policy aspects of land and water management. It is expected that the trainees in the revised curriculum will acquire knowledge and skills that will enable them to address the many complex challenges in increasing the productivity and sustainability of the land and water resources.

2.0 COURSE OBJECTIVES

The MSc in Land and Water Management programme aims to produce professionals equipped with practical skills, which will enable them to undertake the following:

i) Carry out, extension, teaching, research or consultancy in land resources and environment management.

ii) Enhance land productivity by using appropriate and sustainable agricultural production technologies.

iii) Manage water resources for agricultural production and agro-industries at farm and watershed levels.

iv) Carry out research on land and water management technologies and innovations

v) Contribute to the development, implementation and enforcement of relevant policies relating to natural resources management.

3.0 ENTRY REQUIREMENTS

3.2 The common regulations governing Masters Degrees in all faculties of the University of Nairobi shall apply.

3.2 Holders of a Bachelor of Science degree with at least an Upper Second Class Honours in Agriculture, Agricultural Engineering, Range Management, Wildlife Management, Forestry, Environmental Science, Animal Science, Biological and Natural Sciences or an equivalent qualification from an institution recognized by Senate.

3.3 Holders of a Bachelor of Science degree with Lower Second Class Honours in any of the areas specified in (3.2) above, but with at least two years relevant research work experience evidenced by publications, or a postgraduate diploma in any of the areas listed in (3.2) above or an equivalent qualification from an institution recognized by Senate.

3.4 Holders of a relevant Bachelor of Science degree with a pass plus a post-graduate diploma in any field related to land and water management may be considered.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN DRYLAND RESOURCE MANAGEMENT

1.0 INTRODUCTION

In this millennium, drylands all over the world are faced with problems that present tough management, research and policy challenges. These areas cover about 40% of the earth's land surface, and are home to more than 38% of the world's population. People living in drylands constitute a large fraction of the worlds poorest. Of the world's most disadvantaged countries, according to United Nation Development Programme's Human Development Index, over 50% are in dryland Africa. In Africa, two thirds of which is desert or drylands, 73% of the agricultural drylands are moderately to severely degraded. With a rate of disappearance of forest cover of 3.7 to 5 million ha per year bearing down on both surface and groundwater resources and with half the continent's farmland suffering from soil degradation and erosion, Africa is under the greatest desertification threat. Despite these, drylands make a significant contribution to the Gross Domestic Product (GDP) of many nations in the developing world, particularly in terms of livestock products and food grains, and from tourism and related activities. In Kenya, drylands occupy over 80% of the country, where about 36% of the human population is found and 50% of the national livestock herd is also found. In Ethiopia, the livestock sector contributes 16% to GDP, one third of agricultural GDP, and 8% of export earnings.

The sustainable development of drylands and improvement of livelihoods in the drylands characterized by intense poverty is a priority development agenda in eastern and southern Africa. This will involve interventions targeting, inter alia, increased production and livelihoods systems productivity, and water management options. As elsewhere in the world, the long-term driving force of modern economic growth will be science-based technological advances. The challenges associated with the drylands of eastern and southern Africa require an approach to science and innovation which is entrepreneurial and oriented toward key development challenges.

Advances in various aspects of dryland science and community development practices in recent years suggest a common framework for managing drylands. This framework, the Dryland Development Paradigm, centres on the livelihoods of humans in drylands and their dependence on these ecosystems, through the study of highly interactive human-environment systems. The dryland paradigm responds to recent research and policy trends that link ecosystem management with human livelihoods. It is a convergence of insights and key advances drawn from a diverse array of research in desertification, vulnerability, poverty alleviation, and community development. Key lessons under the dryland development paradigm include, one, that ecological and social issues are interwoven, as well as the options for livelihood support and ecological management. Two, that drylands are not at equilibrium, but have multiple thresholds, and thus often exhibit multiple ecological and social states, and three, the practice of indigenous/local environmental knowledge is central to the management of most drylands, but is often ignored or undervalued.

Universities have a key role in this new paradigm which will need them to be proactive within national innovation systems to generate relevant and timely interventions for improving livelihoods. Thus this doctorate programme will contribute to the goal of improving the livelihoods of communities in drylands through sustainable resource management supported by focused research, graduate training and community based interventions.

2.0 COURSE OBJECTIVES:-

i) To develop cadre of high level dryland specialists in academia, research and policy.

ii) To enhance productivity of natural resources through improved management based on sound understanding of dryland system interactions and dynamics.

iii) To develop site specific guidelines and information tools on suitable dryland resource use and management techniques for use by communities, extension agents and development specialists.

iv) To formulate recommendations for supporting policy decisions and promoting investments in agricultural innovation in Africa's drylands.

Key outputs and outcomes expected from the programme include the following:-

i) The programme will produce specialists with a sound background who are specialized and competent in articulating cross cutting issues and equipped

with the relevant tools for development and utilization of drylands to produce goods and services needed by society.

ii) The programme strengthens linkages and partnerships among universities in the region, and between universities and national, regional and international institutions with mandates in dryland research and capacity development.

iii) By bringing together experts with diverse backgrounds and experiences, the programme brings into sharp focus and addresses critical regional training and research gaps.

iv) The programme will contribute on the cutting edge knowledge relevant for the management of the vast drylands in the region and beyond.

3.0 ENTRY REQUIREMENTS

i) Holders of a Master of Science degree in agricultural related disciplines, biological sciences, environmental sciences or in natural resource management or an equivalent qualification from an institution recognized by senate.

ii) Holders of Masters degree in relevant social sciences recommended by the faculty board and approved by senate.

STAFF LIST

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Professor
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Principal Technologist
Kahi, H.C., BSc, MSc, (Nairobi)
Chief Technologist
Tirop, S.K., BSc, (Kenya Methodist), MSc, (Nairobi)

DEPARTMENT OF PLANT SCIENCE AND CROP PROTECTION

BRIEF HISTORY AND PREAMBLE

The Department of Plant Science and Crop Protection is one of the oldest departments of the University of Nairobi. It started as Applied Science in the Faculty of Agriculture in 1970/71 within the College of Agriculture and Veterinary Sciences (CAVS) in the Upper Kabete Campus. It was later renamed the Department of Crop Science. In 1997, the Department of Crop Science was split into two departments namely, Department of Crop Science and Department Crop Protection. In 2005, the two departments were merged to form the Department of Plant Science and Crop Protection. After the merger, the department was re-organized into two sections; namely Crop Science and Crop Protection. The Crop Science Section is made up of

the following units: Agronomy, Horticulture, Plant Breeding and Biometry. While the Crop Protection Section is made up of Plant Pathology and Entomology Units.

The Department undertakes vigorous training for both undergraduate and postgraduate levels and conducts research geared towards solving national and international problems. It currently offers Diploma, BSc. Horticulture, Masters and PhD programs, and services all the BSc. Programmes in the Faculty of Agriculture. The Department also offers Crop Science and Crop Protection options for the 4th year BSc. Agriculture.

It is also involved in consultancies, advisory services and encourages both national and international collaboration. The Department links include, the National Research System ASARECA CGIAR Centres and Universities in the region, and outside the region. The department has a team of highly trained, motivated and dedicated staff coupled with laboratory, greenhouse and field facilities. This has enabled the Department to maintain national, regional and international leadership role in teaching, and thus to deliver quality training and research in all areas of its mandate research consultancy and outreach in agriculture. Some of the research milestones attained in the Department include development of high yielding, disease resistant varieties of beans, pigeon peas, and chick peas. In terms of outreach, the Department continues to transfer technologies and innovations for sweet potatoes, irish potatoes, beans, cassava and indigenous vegetables. The Department also produces clean tissue culture citrus and cassava planting materials for use by farmers. It is accredited by the Pest Control Products Board to conduct efficacy trials of new pesticide molecules. The Department undertakes consultancy services and encourages national, regional and international collaboration networks and partnerships.

The Department of Plant Science and Crop Protection plays a key role in the development of manpower in Crop Improvement, protection and Management at both national and regional levels.

REGULATIONS AND SYLLABUS FOR THE DIPLOMA IN CROP PROTECTION

1.0 INTRODUCTION

Crop losses due to pests and diseases account for about one-third of agricultural production costs in terms of chemicals, equipment and manpower. However, skills in identification of pests, diseases and available management strategies are largely lacking. There is, therefore, an established need to train manpower in all aspects of crop protection. This diploma course is designed for staff in the private sector, government and non governmental organizations in the agricultural industry: agricultural extension workers, farm managers and field technologists, staff in agricultural/education institutions, staff engaged in crop protection research, pesticide delivery service, and as a bridging course for high school graduates wishing to pursue degree programmes.

The overall objective of the course is to equip the trainees with tools and skills for identification and control of crop pests and diseases. It is designed to impart knowledge and skills in characteristics of the causal agents diagnosis of causes of crop injury, development and use of methods of diseases, weeds and pest monitoring field surveys, crop loss assessment, estimating threshold levels as a guide for control, and designing IPM strategies for control. The programme emphasizes theory and practical application to learners wishing to continue, refresh and/or interested in sharpening their skills in crop protection. The revised curriculum is designed to balance varying interests through flexibility in mode of delivery, increase in course duration from one to 2 years to match well known diploma programmes and introduction of basic courses that are prerequisite in understanding crop protection principles.

2.0 ENTRY REQUIREMENTS

The following shall be eligible for admission for the diploma course:

2.1 Holders of KCSE with mean grade of C plain and C- pass in any of the following subjects: biology, chemistry, agriculture, or physics.

2.2 KCE with division II and at least a pass in biology or chemistry, or physics or agriculture, or physical science or mathematics.

2.3 KACE with at least one Principal level pass and one subsidiary pass in biology or chemistry or physics or mathematics.

2.4 Certificate in Crop Protection, Agriculture, Horticulture, Forestry, Environmental Sciences or related Plant or Biological Sciences.

2.5 Diploma, Higher diploma or degree in any natural or biological sciences

REGULATIONS AND SYLLABUS FOR THE DEGREE OF BACHELOR OF SCIENCE IN HORTICULTURE

1.0 INTRODUCTION

Horticulture is currently one of the fastest growing industries in Kenya and is the country's highest foreign exchange earner. Among horticultural crops, vegetables, fruit crops, and cut flowers have the highest value: volume ratio making them the export crops of choice. The horticultural sub sector offers an alternative for increased food self-sufficiency, food security, improved nutrition and generation of increased incomes and employment. Despite this phenomenal growth, horticulture is a highly specialized field requiring well-trained personnel to cover areas of production, handling, storage, value adding, marketing and distribution. The need for trained manpower for this industry is urgent especially in light of stiff competition in the international markets for good quality products.

Justification

The major goal of a Bachelor of Science in Horticulture is to prepare graduates to meet the challenges faced by the expanding horticultural industry.

2.0 PROGRAMME OBJECTIVE

The broad objective of this programme is to effectively not only equip students with managerial and technical skills but also hands on ability to adequately serve the Horticulture industry in Kenya through propagation, husbandry, research, extension, marketing and entrepreneurship. On completion the horticultural program graduates will be able to:

i) Perceive and appreciate the importance of horticultural crops in the national economy.

ii) Contribute to improvement of production and enhance marketing of horticultural products.

iii) Contribute to public awareness of aesthetic value of ornamental plants.

iv) Contribute to setting up and running of private horticultural enterprises.

v) Participate in scientific research on various facets of horticultural and other crops.

vi) Promote domestic, urban and institutional landscapes through design, development and maintenance.

vii) Promote environmental conservation.

3.0 ENTRY REQUIREMENTS

Entry requirements for the degree of Bachelor of Science in Agriculture shall be: -

a) Holders of KCSE with mean grade of C+ with passes at C or above in Biology, Chemistry, Mathematics or Physics or Geography, and any one of the following; English, Kiswahili, Physics (*if not included above*), History and Government, Geography (*if not included above*), Christian Religious Education, Islamic Religious Education, Hindu Religious Education, Home Science, Art and Design, Agriculture, Aviation Technology, Computer Science, French, Germany, Arabic, Music, Business Studies.

b) Holders of K.A.C.E. or equivalent with minimum 2 principal passes in Biology and Chemistry and at least a subsidiary pass in Mathematics. If Mathematics was not offered at K.A.C.E, then it is accepted at Ordinary Level but with a minimum of a credit pass.

c) Holders of a Diploma in Biological Sciences or related sciences from a recognized institution with credit or distinction, with KCSE mean grade of C or above.

d) Holders of a degree in biological sciences or related sciences from a recognized University.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN HORTICULTURE

1.0 INTRODUCTION

Over the past two decades, the horticultural industry in Kenya has expanded tremendously becoming a major contributor to the country's economy and the leading foreign exchange earner and a major employer. However, stiff competition in regional and global markets and the problems encountered in production, processing, financing, and environmental management pose a serious challenge. There is therefore need to build capacity in aspects that increase productivity while managing resources and environment efficiently, effectively and sustainably. The Master of Science (MSc) programme in horticulture is designed with a view of training high quality graduates with requisite professional and technical skills to effectively handle issues of crop productivity, quality, postharvest handling and value

addition. The trainees will be equipped with knowledge and skills on global issues including good agricultural practices, climate change, biodiversity, biotechnology, environmental management and market access. In addition, the trainees will be taught research and communication skills to enable them develop strategies that will enhance the growth of the horticulture sub-sector.

The revised MSc Horticulture curriculum has introduced flexibility in the mode of delivery and incorporates new topics such as entrepreneurship, phytosanitary standards, crop biotechnology and improvement, and scientific communication in order to address the changing market demands. Open, Distance and Electronic Learning (ODEL) has been in-built into the mode of delivery to meet the needs of students who might prefer the alternative. The flexible ODEL is preferred by employers and self employed people since it allows employed students to undertake training while still on the job. The revised curriculum is designed to offer client-friendly training to produce holistic graduates well prepared and equipped to handle challenges and exploit opportunities within the horticultural product value chain.

2.0 COURSE OBJECTIVES:

i) To enable graduates to acquire in depth theoretical knowledge and practical skills in horticultural crop production

ii) To build the capacity of graduates to formulate a research problem, design and execute scientific research project and reporting and communication in horticulture to stakeholders

iii) To enable graduates to acquire entrepreneurial skills for use in creating employment opportunities

3.0 ENTRY REQUIREMENTS

The common regulations for the Master's degree of the University of Nairobi and Faculty of Agriculture shall apply.

3.1 A holder of a degree with at least Upper Second Class Honours in Bachelor of Science in Agriculture, Horticulture, Botany and Zoology, Environmental Sciences, Forestry, or related plant science degree or Bachelor of Education in Science with Botany and Zoology option and any other relevant subject from the University of Nairobi or any other institution recognized by Senate.

3.2 Holders of a degree with at least Lower Second Class Honours in any of the degrees specified in (3.1) above with two years of relevant experience or a postgraduate diploma in (3.1) above or equivalent qualification from the University of Nairobi or any other institution recognised by Senate.

3.3 Holders of a pass degree in disciplines specified in (3.1) above and a postgraduate diploma or its equivalent from the University of Nairobi or any other institution recognized by the senate.

3.4 Holders of a pass degree in the disciplines specified in (3.1) above with at least five years relevant work experience

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN PLANT BREEDING AND BIOTECHNOLOGY

1.0 INTRODUCTION

Plant breeding has for a long time been focussed on developing types better suited for satisfying agricultural needs for food and nutrition, and even for clothing, fuel, drugs and aesthetically pleasing ornamentals. Improved materials have led to increased yields, better varieties for new agricultural areas, better agronomic and horticultural characteristics, varieties resistant to heat, cold, or drought and improved quality of agricultural products. Much has been achieved through classical breeding made possible by the application of Mendelian and statistical genetics. Genetic improvement has taken on a complex dimension of the interrelationships of genes, crops and the environment and/or issues of genetic resources ownership, access and equity. Biotechnology that makes it possible for rapid genetic manipulation brings with it intellectual property concerns. Complete sequencing of several plant genomes has provided immense genetic information that needs to be harnessed to contribute towards improving crops. All these have changed the face of plant breeding with implications on global trade, third world poverty and food security.

The dynamism must urgently be captured by applying strategic capacity building for the benefit of agricultural development of the country. In light of the above, the Plant Breeding and Biotechnology programme is thus tailored to remain versatile to the changing times by incorporating industry focused content and modern student centered delivery methods. The programme content and mode of delivery is structured to meet the students' aspirations and to expose the students to the job market opportunities and the emerging advances in the field of plant breeding, applied genetics and biotechnology. More over, the programme is structured in such a way as to fit more library time, self-study and part-time learning where full time undertaking is not possible.

2.0 COURSE OBJECTIVES: -

i) To produce graduates with ability to identify research imperatives in plant breeding and biotechnology, design and execute plant breeding research projects aimed at solving the problems within a changing agricultural environment

ii) To train highly skilled plant breeders and plant biotechnologists who will help optimise the country's ability to attain food security and better nutrition while improving agriculture-based incomes from improved products and maintaining the natural resource base.

3.0 ENTRY REQUIREMENTS

The common regulations for the Master's degree of the University of Nairobi and Faculty of Agriculture shall apply.

3.1 A holder of a degree with at least Upper Second Class Honours in Bachelor of Science in Agriculture, Horticulture, Botany and Zoology, Environmental Sciences, Forestry, or related plant science degree or Bachelor of Education in Science with Botany and Zoology option and any other relevant subject from the University of Nairobi or any other institution recognized by Senate.

3.2 Holders of a degree with at least Lower Second Class Honours in any of the degrees specified in (3.1) above with two years of relevant experience or a postgraduate diploma in (3.1) above or equivalent qualification from the University of Nairobi or any other institution recognised by Senate.

3.3 Holders of a pass Bachelor's degree in disciplines specified in (3.1) above and a postgraduate diploma or its equivalent from the University of Nairobi or any other institution recognized by the senate.

3.4 Holders of a pass degree in the disciplines specified in (3.1) above with at least five years relevant work experience

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRONOMY (MSC AGRONOMY)

1.0 INTRODUCTION

Agriculture plays a vital role in Kenya's national economic development as a source of livelihood, industrial raw materials and employment. The Kenya government growth-oriented Agricultural Sector Development Strategy (ASDS), which is in line with Vision 2030, seeks to facilitate the sector's transformation from the subsistence to an **"innovative, commercially-oriented, and modern agriculture sector"**. The strategy underpins the need to build capacity that will drive increased crop productivity while managing the resources and environment efficiently, effectively and sustainably.

2.0 COURSE OBJECTIVES

i) To train skilful agronomists qualified in scientific basis of sound environmental managerial skills for increased crop productivity, environmental and product safety

ii) Equip graduates with analytical and communication skills to enhance knowledge generation, dissemination and utilization.

3.0 ENTRY REQUIREMENTS

The common regulations for the Master's degree of the University of Nairobi and Faculty of Agriculture shall apply.

3.1 A holder of a degree with at least Upper Second Class Honours in Bachelor of Science in Agriculture, Horticulture, Botany and Zoology, Environmental Sciences, Forestry, or related plant science degree or Bachelor of Education in Science with Botany and Zoology option and any other relevant subject from the University of Nairobi or any other institution recognized by Senate.

3.2 Holders of a degree with at least Lower Second Class Honours in any of the degrees specified in (3.1) above with two years of relevant experience or a postgraduate diploma in (3.1) above or equivalent qualification from the University of Nairobi or any other institution recognised by Senate.

3.3 Holders of a pass Bachelor's degree in disciplines specified in (3.1) above and a postgraduate diploma or its equivalent from the University of Nairobi or any other institution recognized by the senate.

3.4 A holder of a pass degree in the disciplines specified in (3.1) above with at least five years relevant work experience

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN CROP PROTECTION

1.0 INTRODUCTION

Agriculture is the main economic activity in Kenya, with horticulture being a major foreign exchange earner. The export of high-value and labour intensive horticultural commodities, such as fruits, vegetables and ornamentals play a key role in foreign exchange earnings. However, for the country to fully benefit from international trade

opportunities the produce must comply with international standards and the import requirements of the importing countries. Increased access to international markets creates wealth at all levels, from macro-economic growth to poverty reduction both at individual and family levels. At production level, the major challenge is to reduce crop losses from diseases, pests and weeds while safeguarding the environment and a large proportion of crop production expenses go to crop protection activities. As a result of market liberalization, different types of pesticides, crop products and planting materials are imported into the country. This calls for stringent measures to curb entry of insect pests, diseases, noxious and invasive weeds that are capable of destroying various crop enterprises and the environment. However, consumer preferences are towards pesticide-free, quality produce and new regulations such as EUREPGAP have been put in place by importing countries.

The revised MSc. Crop protection curriculum has introduced flexibility in the mode of delivery and incorporates new topics to address the changing job market requirements. Open and distance learning is preferred by employers and self employed people since it allows students to undertake training while still on the job.

The revised curriculum is, therefore, designed to offer client-friendly training in all aspects of crop and environmental protection to produce holistic crop protection graduates well prepared and equipped to meet the current job market requirements.

2.0 COURSE OBJECTIVES:

2.1 To enable students acquire knowledge and skills to offer advisory services in all matters related to crop and environmental protection.

2.2 Design and execute research programmes aimed at solving crop and environmental protection problems.

2.3 Collect, analyse, interpret and present data in crop and environmental protection experiments.

2.4 Acquire competence in pesticide safe handling, usage, disposal and monitoring their fate in the environment.

2.5 Manage crop and environmental protection issues including integrated pest and disease management (IPDM) and other environmentally safe procedures.

2.6 To acquire entrepreneurial skills for use in creating employment opportunities.

3.0 ENTRY REQUIREMENTS

The common regulations governing Master's degree in the University of Nairobi and the Faculty of Agriculture shall apply.

3.1 A holder of a degree with at least Upper Second Class Honours in Bachelor of Science in Agriculture, Botany and Zoology, Environmental Sciences, Forestry, Horticulture or related plant science degree or Bachelor of Education in Science with botany and Zoology option and any other relevant subject from the University of Nairobi or any other institution recognized by Senate.

3.2 A holder of a degree with at least Lower Second Class Honours in any of the disciplines specified in 3.1 above with two years of relevant experience or a postgraduate diploma in 3.1 above or equivalent from the University of Nairobi or any other institution recognized by Senate.

3.**3** A holder of a pass degree in the disciplines specified 3.1 above with at least five years work experience in agricultural related field.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN PLANT PATHOLOGY

1.0 INTRODUCTION

Agriculture is the main economic activity in Kenya, with horticulture being a major foreign exchange earner and the staple crops are important to food security. However, for the country to attain food security and to fully benefit from international trade opportunities, pre- and post harvest crop losses due to plant diseases must be reduced to minimum levels possible. Increased access to markets creates wealth at all levels, from macro-economic growth to poverty reduction both at individual and family levels. The postgraduate training programme in plant pathology will cover causes of plant diseases, factors that influence plant disease epidemics and their management, including training on pesticide use, efficacy and their effects on the environment. Host-pathogen relationships, plant disease resistance and biotechnology aspects will also be addressed. In addition, the trainees will be taught research methodologies to equip them with tools required in experimental design, data collection, analysis, interpretation and communication of research findings. Therefore, the training programme will produce competent personnel capable of handling all issues relating to plant diseases, their management and making enlightened decisions in this field.

The revised MSc. Plant Pathology curriculum has introduced flexibility in the mode of delivery and incorporates new topics such as entrepreneurship and phytosanitary regulations in order to address the changing job market requirements. Open and distance learning mode is preferred by employers and the self employed since it allows students to undertake training while still on the job. The revised curriculum is therefore, designed to offer client-friendly training in plant pathology to produce graduates well prepared and equipped for the modern job market.

2.0 COURSE OBJECTIVES

2.1 Train qualified personnel in the field of plant pathology who will be competent in identifying and managing plant diseases using environmentally safe procedures.

2.2 Equip the candidates with the necessary tools to undertake research in all fields of plant pathology.

2.3 Train the candidates on how to collect, analyse, interpret communicate and present their research findings in seminars, workshops and scientific publications.

3.0 ENTRY REQUIREMENTS

The common regulations governing Master's degree in the University of Nairobi and the Faculty of Agriculture shall apply.

3.1 A holder of a degree with at least Upper Second Class Honours in Bachelor of Science in Agriculture, Botany and Zoology, Environmental Sciences, Forestry, Horticulture or related plant science degree or Bachelor of Education in Science with botany and Zoology option and any other relevant subject from the University of Nairobi or any other institution recognized by senate.

3.2 A holder of a degree with at least Lower Second Class Honours in any of the degrees specified in (3.1) above with two years of relevant experience or a postgraduate diploma in (3.1) above or equivalent from the University of Nairobi or any other institution recognized by senate.

2.3 A holder of a pass degree with a postgraduate diploma in the above relevant disciplines or its equivalent from the University of Nairobi or any other institution recognized by the senate.

2.4 A holder of pass degree in any of the degree categories specified in (3.1) above with at least five years relevant work experience.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN SEED TECHNOLOGY AND BUSINESS MANAGEMENT

1. INTRODUCTION

Agricultural development is a precursor to industrialization in Sub-Saharan Africa and acquisition of quality seed of improved crop varieties symbolizes the potential to improve agricultural output. Although significant progress has been made to generate new improved crop varieties, farmers are yet to benefit fully from these achievements. This is due to lack of trained personnel with practical skills in the production of quality seed and managing seed business. This expertise is required for proper maintenance of varieties with improved traits in order to pass the benefits of the bred traits to the grower. However, the current post-graduate training programmes have little focus on seed technology and business. Therefore, the Master of Science in Seed Technology and Business Management is tailored to provide opportunities to graduates in agricultural and biological sciences wanting to specialize in seed science, technical managers serving in the seed industry, professionals and scientists with limited background in seed science, seed entrepreneurs and people with postgraduate diploma wishing to upgrade to a Masters degree. Crop seeds to be covered will include among others cereals, pulses, horticultural crops, industrial crops, root crops, forages and grasses.

The course is specifically designed with the objective to train seed technology specialists and seed company managers in quality seed production, seed business management and modern research techniques in seed science and technology.

2. ENTRY REQUIREMENTS

The common regulations governing Masters programmes in all Faculties/Institutes/Schools of the University of Nairobi shall apply. The following shall be eligible for admission for the Master of Science in Seed Technology and Business:

2.1 Holders of at least upper second class Honours degree or equivalent in agricultural, biological and environmental sciences from a university recognized by the University of Nairobi Senate.

2.2 Holders of at least lower second class Honours degree or equivalent in agricultural, biological and environmental sciences from a university recognized by the University of Nairobi Senate and with at least two years relevant experience.

2.3 Holders of a pass degree or equivalent in agricultural, biological and environmental sciences from a university recognized by the University of Nairobi Senate and with at least 5 years relevant experience.

2.4 Holders of pass degree in agricultural, biological and environmental sciences and a relevant postgraduate diploma.

STAFF LIST

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Lecturer

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Tutorial Fellow

Musembi, N.N., BSc, MSc, (Nairobi)
Kitonyo, O.M., BSc, MSc, (Nairobi)
Cheboi, J., BSc, MSc, (Eldoret)

DEPARTMENT OF ANIMAL PRODUCTION (CONSTITUENT)

BACKGROUND

The Department of Animal Production is one of the oldest departments of the University of Nairobi. Located at Upper Kabete Campus, Faculty of Veterinary Medicine, the department is also a full member of the Faculty of Agriculture Since its inception, the department has participated in the production of over 1,700 veterinarians, 2,000 agriculture graduates, 500 food technologists, 400 range managers, 600 agricultural engineers in addition to 50 Masters of Science in Animal Nutrition, Genetics and Animal Breeding and Livestock production systems as well as 15 PhD's in specific aspects of Animal science Academic Programmes The department offers courses in animal production to undergraduates of the faculties of Agriculture and Veterinary Medicine.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN LIVESTOCK PRODUCTION SYSTEMS

1. 0 COURSE OBJECTIVES

1.1 Equip production system analysts with knowledge and skills in livestock systems analysis to help integrate components of production systems for sustainable use of resources and improved livestock productivity

1.2 Train personnel to undertake academic responsibility in research, consultancy and teaching in livestock production systems

1.3 Equip the analysts with ability to document, evaluate and monitor production systems.

2.0 ENTRY REQUIREMENTS

2.1 The common regulations for the Masters' degrees in all faculties shall apply.

2.2 The following shall be eligible for admission:

2.2.1 Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;

a) Bachelor of Veterinary Medicine

b) Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range management, Wildlife, Zoology and Agricultural economics.

2.2.2 Holders of Lower Second-class Honours degree with at least two years relevant experience;

2.2.3 Holders of Pass degree or equivalent qualifications as listed in 2.2.1 above with either a relevant post-graduate diploma or five years experience.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN POULTRY SCIENCE

1.0 INTRODUCTION

Skilled manpower trained at the post-graduate level in rangeland resource management is limited in most African countries. The majority of the rangeland resource managers in the region have been trained abroad where training is not appropriate for the African set up where the mode of production is largely labour-intensive, low capital subsistence pastoralism. Trained skilled manpower is expected to act as a catalyst for enhancing the productivity and human support capacity for pastoral systems in the region. The objectives of the programme are to equip trainees with relevant skills to enable them participate in the rehabilitation, rational management and efficient utilization and conservation of arid and semi-arid land resources.

2.0 COURSE OBJECTIVES:

1.1 Equip poultry scientists with knowledge and skills to enhance sustainable utilization of resources to increase poultry productivity.

1.2 Train manpower to undertake academic responsibility in research, consultancy and teaching in poultry science.

3.0 ENTRY REQUIREMENTS

3.1 The common regulations for the Masters' degrees in all faculties shall apply.

3.2 The following shall be eligible for admission:

3.3.1 Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;

a) Bachelor of Veterinary Medicine.

b) Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range Management, Food Science and Technology.

3.3.2 Holders of Lower Second-class Honours degree with at least two years relevant experience;

3.3.3 Holders of Pass degree or equivalent qualifications as listed in 3.3.1 above with either a relevant post-graduate diploma or five years experience.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN ANIMAL NUTRITION AND FEED SCIENCE

1. COURSE OBJECTIVES:

1.1 Equip animal nutritionists with knowledge and skills in nutrition and feed science to enhance sustainable utilization of feed resources and improve animal productivity.

1.2 Train personnel to undertake academic responsibility in research, consultancy and teaching and promote application of biotechnology in animal nutrition and feed science.

2. ENTRY REQUIREMENTS

2.1 The common regulations for the Masters' degrees in all faculties shall apply.

2.2 The following shall be eligible for admission:

2.2.1 Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;

a) Bachelor of Veterinary Medicine

b) Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range Management, Food Science and Technology, or Biochemistry

2.2.2 Holders of Lower Second-class Honours degree or with at least two years relevant experience;

2.2.3 Holders of Pass degree or equivalent qualifications as listed in 2.2.1 above with either a relevant post-graduate diploma or five years experience.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN ANIMAL GENETICS AND BREEDING

COURSE OBJECTIVES:

1.1 Equip geneticists and animal breeders with knowledge and skills in animal genetics and breeding to enhance sustainable management of animal genetic resources.

1.2 Train manpower to undertake academic responsibility in research, consultancies and teaching in animal genetics and breeding.

1.3 Train manpower to document and conserve animal biodiversity and apply biotechnology in livestock improvement.

2.0 ENTRY REQUIREMENTS

2.1 The common regulations for the Masters' degrees in all faculties shall apply.

2.2 The following shall be eligible for admission:

2.2.1 Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;

a) Bachelor of Veterinary Medicine

b) Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range Management, Food Science and Technology, Wildlife or Zoology.

2.2.2 Holders of Lower Second-class Honours degree with at least two years relevant experience;

2.2.3 Holders of Pass degree or equivalent qualifications as listed in 2.2.1 above with either a relevant post-graduate diploma or five years experience.

STAFF LIST
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Chief Technologist:
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DEPARTMENT OF FOOD SCIENCE, NUTRITION AND TECHNOLOGY

REGULATIONS AND SYLLABUS FOR CERTIFICATE IN FOOD SAFETY AND QUALITY

1.0 INTRODUCTION

Food safety and quality is an issue of high priority both nationally and internationally. Initially food safety and quality was thought to be the preserve of the food manufacturing industry. Much has changed as food safety and quality is now described along the food chain from primary production to consumption. The food sector is currently facing strong commercial pressure to provide high quality and safe food products. Hence for firms to survive in the competitive food sector world-wide they must integrate food safety and quality planning in their strategies and future planning. There is clearly an indication of lack of adequate knowledge on the safety measures necessary during primary food production, handling, processing, distribution and preparation by key players along the food chain. However the food sector lacks adequately trained human resource to effectively handle the challenging and emerging issues in food safety. In order to enhance food safety and quality along the entire chain it becomes therefore imperative to enhance capacity at front line along the food chain.

The Certificate in Food Safety and Quality has been developed to provide training and enhance capacity of those persons who would like to be involved in primary food production, handling, processing, distribution and preparation at the frontline. The course also caters for personnel in both the private and public sectors who wish to upgrade their knowledge and skills on current developments in food safety and quality and thus enhance their understanding of current food safety issues. The course deals with the theoretical and practical aspects of food safety and quality. The graduate of the Certificate in Food Safety and Quality course will be uniquely an all-round individual not only with a blend of courses but also technically capable of handling current and emerging challenges in food safety.

2.0 COURSE OBJECTIVES

The objectives of the Certificate in Food Safety and Quality programme are to:

2.1 Provide human resource requirements that will promote safety and quality food of products and enhance domestic and export market access.

2.2 Impart knowledge and skills that will help the students to promote good practices safety and quality of food products along the food chain.

3.0 ENTRY REQUIREMENTS

3.1 The common regulations governing certificate course in the University of Nairobi shall apply.

3.2 Holders of KCSE minimum aggregate of C- or KCE Division III or equivalent with at least D+ in Chemistry and Biology.

3.3 Holders of a degree or diploma or equivalent from an institution recognized by the University of Nairobi Senate

REVISED REGULATIONS AND SYLLABUS FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY

1.0: INTRODUCTION

Just like many countries in the world, whose economy have been catapulted from third world agricultural-based economy via second world to the industrialized status, Kenya's economy can be expected to take the same path, where capital for industrialization is acquired through efficient exploitation of the agricultural resource base. Under such circumstances transformation of agricultural raw materials into higher value consumer products for local and export markets provides the initial opportunities for creation of such capital. In this regard, industrialization of food processing serves as the initial catalyst and base for the capital generation for the industrialization of the other sectors of the country's economy. Such trend leads to an economy less dependent on agriculture, with manufacturing industries assuming the main sector for both wealth generation and employment opportunities. While land and capital can be easily made available for the industrialization of food manufacturing sector, capacity building in form of trained manpower is an expensive, continuous and long term process.

The food processing sub sector that is said to represent more than 40% of Kenya's manufacturing sector, is characterized by a separation into a modern food processing sector, with relatively high capital input, and small scale food processing sector working with low capital inputs and relatively simple technologies. In order to provide more impetus for industrialization of food processing, more than just training manpower for the existing job market is required. There is need for training manpower able to create job opportunities via self employment and venture into manufacturing opportunities.

The current BSc degree program in Food Science and Technology has therefore been reviewed in the context of addressing the need for producing trained manpower that is more inclined towards self employment than job employment. Furthermore more emphasis has been given to the current trend in adoption of the technological innovations involving biotechnology and information and communication technology in manufacturing and marketing processes in the agricultural and food, medical and pharmaceutical related enterprises.

2.0: COURSE OBJECTIVES

The main objective is to produce graduates with knowledge and skills in food science and technology. The specific objectives are to:-

i) produce graduates with knowledge and skills to manage food manufacturing operations;

ii) produce graduates with knowledge and skills to serve society through teaching, research, consultancy and outreach in the area of food science and technology; and

iii) enable graduates to acquire entrepreneurial skills for use in creating employment opportunities.

3.0 ENTRY REQUIREMENTS

Regulations of University of Nairobi shall apply.

i) Holders of KCSE with mean grade of C+ with passes at C or above in Biology, Chemistry, Maths or Physics or Geography, and one of the following subjects:- English, Kiswahili, Physics (*if not included above*), History and Government, Geography (*if not included above*), CRE, Computer Studies, German, Music, Islamic Religious Education, Hindu Religious Education, Home Science, Art & Design, Agriculture, Aviation Technology, French, Arabic, Business Studies.

ii) Holders of KACE or equivalent with minimum 2 Principal Passes in Biology and Chemistry and at least a subsidiary pass in Mathematics or Physics. If Mathematics or Physics was not offered at KACE, then it is accepted at Ordinary Level but with a minimum of a Credit Pass.

iii) Holders of a Diploma in Biological Sciences or related sciences from a recognized institution with KCSE mean grade of C or above.

iv) Holders of a degree in biological sciences or related sciences from a recognized University.

BACHELOR OF SCIENCE IN FOOD NUTRITION AND DIETETICS

1.0 INTRODUCTION

Malnutrition and is a persistent global problem and while under-nutrition has, for a long time, been considered as the main nutritional issue, in the developing countries, it is now accepted that over-nutrition is a problem on the increase; hence, nutritionists and dieticians are now dealing with double-burden of malnutrition. In this context, an enabling environment is a key component in effective reduction and mitigation against malnutrition. Thus, the need for high quality and targeted human capacity development that produces well trained professionals; with practical knowledge and skills; who are adequate in numbers.

Against this backdrop, the Department aims to contribute towards closing the gap in human resource; that takes cognisance of global needs in tandem with the University's vision. As such, the purpose of the Food Nutrition and Dietetics degree programme is to produce highly trained technical professionals with practical knowledge and skills in human nutrition and dietetics; able to provide required services at both national and global level. These shall be professionals able to effectively innovate, generate and promote technologies and strategies in offering services that reduce and mitigate against malnutrition, food and nutrition insecurity to create positive impact on human health and labour productivity, as envisaged in Kenya's Vision 2030. The curriculum is responsive to existing and emerging human nutrition and dietetics related challenges in the context of underlying factors that include disease, food insecurity and poverty. The curriculum is, thus, designed to produce graduates who shall provide technical services to governments (*including nutrition and dietetics policy formulation and implementation*); local and international non-governmental and community organizations; community health care institutions; nutrition, food industry and businesses among others.

The review of this curriculum engaged key stakeholders including the Kenya Nutrition and Dietetics Institute (KNDI), students, staff and practicing graduates of the programme. The curriculum takes cognizance of the importance of experiential learning and therefore factors in ample time for practical/laboratory work and field/ industrial attachment.

2.0 COURSE OBJECTIVES

The objectives of the programme are to:

2.1 Produce graduates with skills to promote good human nutrition and dietetic practices for optimal health, disease prevention and disease management;

2.2 Produce graduates with knowledge and skills to conduct human nutrition and dietetic assessment and diagnosis and institute appropriate interventions;

2.3 Produce graduates with skills to conduct human nutrition and dietetics related research nationally, regionally and internationally ;

2.4 Produce graduates with adequate leadership and entrepreneurial skills in human nutrition and dietetics there-by making them competitive in the global arena.

3.0 ENTRY REQUIREMENTS

3.1 Holders of KCSE with a mean grade C+ and a minimum of C+ in Biology or Biological Sciences, Chemistry or Physical Sciences, Mathematics or Physics and English or Kiswahili.

3.2 Holders of Diploma in Nutrition and Dietetics or Nutrition and Food Sciences or equivalent with KCSE mean grade C+ or above.

3.3 Holders of 'O' level Division I or II or equivalent with the subjects indicated in 3.1 above; plus a Diploma in Nutrition and Dietetics or Nutrition and Food Sciences from an institution recognized by the Senate

3.4 Holders of 'A' level with two Principal Passes or equivalent in Biology and any one of the following subjects: Chemistry, Physics, or Mathematics

3.5 Holders of a Bachelor of Science degree in Biological Sciences or related sciences from an institution recognized by the Senate.

REGULATIONS AND SYLLABUS FOR THE POSTGRADUATE DIPLOMA IN FOOD SAFETY AND QUALITY

1.0 INTRODUCTION

Food Safety is central to public health, poverty reduction and sustainable development. Recent cases published in Kenyan media have shown that poor food safety and/or quality can have adverse health, political, social and economic consequences. The World Health Organization (WHO) has recognized food safety as a critical and fundamental component of public health globally. A number of initiatives have been directed at addressing and improving food safety. Priority interventions include, among others, formulation and implementation of food safety policies, regulations and capacity building. However in the East African region, Kenya included, the food sector lacks the necessary human resource to effectively handle the challenging and emerging issues in food safety. Food safety issues are handled by personnel who are not adequately trained for the tasks. Therefore training, among numerous interventions, is the most potentially useful and cost-effective intervention measure of improving the safety and quality of foods.

The development of Postgraduate Diploma (PGD) programme in Food Safety and quality was strongly based on the needs assessment findings that inadequate personnel numbers and skills to cope with emerging issues is a major constraint to food safety operations in organizations mandated to carry out food safety activities; upgrading of knowledge and skills is required to update the personnel on current developments on food safety and quality; the training curricula in our higher learning institutions have not been adequately responsive to the world-wide changing trends in food safety and; there is growing recognition that food safety is an emerging profession in food production, processing and marketing chain.

The PGD in Food Safety and Quality aims at enhancing capacity of graduates working or intending to work in food sector and are not adequately trained in handling food safety issues. The PGD in Food Safety and Quality curriculum is tailored to offer vertical integration to further training in food safety and quality and related discipline. The PGD in Food safety and Quality was developed in collaboration with various stakeholders and focuses on strengthening the theoretical, practical and preventive aspects of food safety and quality throughout the food chain from production to consumption.

2.0 COURSE OBJECTIVES

i) Provide graduates with enhanced competency to handle food safety and quality issues in the food industry including policy formulation and implementation, and regulatory activities.

ii) Provide graduates with practical skills to enable them develop, implement and audit food safety management systems.

iii) Enhance human resource for facilitation of production of safe foods and enhance domestic and export market access.

3.0 ENTRY REQUIREMENTS

The minimum requirements for eligibility into the postgraduate Diploma in Food Safety will be:-

3.1 The common regulations governing the admission into postgraduate diploma degree programme in University of Nairobi shall apply.

3.2 Holders of at least lower second class Honours BSc. degree in natural and biological sciences, engineering and health sciences or any other related discipline from the University of Nairobi or any other institution recognized by the senate of University of Nairobi.

3.3 Holders of a Pass BSc. degree in areas specified in 3.2 above and with at least one year working experience in the food industry or diploma from the University of Nairobi or any other institution recognized by the senate of University of Nairobi.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN FOOD SAFETY AND QUALITY

1.0 INTRODUCTION

Food safety and quality has become an issue of high priority nationally and internationally due to globalization of the food market. Food Safety is central to public health, poverty reduction and sustainable development. Access to safe food is a human right. Recent cases published in Kenyan media have shown that unsafe and/or poor quality food can have adverse health, political, social and economic consequences. In this realization, the World Health Organization (WHO) has urged its member States to integrate food safety in their public health and nutrition functions and to provide adequate resources to establish and strengthen their food safety programme. Priority interventions included, among others, formulation and implementation of food safety policies, regulations and capacity building. Training, among numerous others, is the most potentially useful and cost-effective intervention for improving the safety and quality of foods.

The development of MSc. programme in Food Safety and Quality was strongly based on one of the findings of a needs assessment that limitations in the capacity of human resource is a major constraint to food safety operations across the various organizations mandated to carry out food safety activities. These limitations are mainly in personnel numbers and skills; upgrading of knowledge and skills necessary to update current personnel on emerging developments in food safety and quality; current training curricula in our higher learning institutions have not been adequately responsive to the global changing trends in food safety and; there is a growing recognition that food safety is an emerging profession in the food production, processing and marketing chain.

The MSc curriculum in Food Safety and Quality was developed in collaboration with various stakeholders and focuses on both the theoretical, practical and preventive aspects of food safety and quality throughout the food chain from primary production to consumption. The programme is intended to produce graduates capable of handling current and emerging issues in food safety and quality at production, industrial and regulatory level. It also prepares the graduate for further training and research in aspects of food safety and quality.

2.0 COURSE OBJECTIVES

i) To provide graduates with knowledge and skills that will enable them to identify and solve problems related to enhancement of food safety and quality.

ii) Provide graduates with practical skills to enable them develop, implement and audit a food safety management system.

iii) Develop human resources who will facilitate production of safe foods and enhance domestic and international market access.

3.0 ENTRY REQUIREMENTS

3.1 The common regulations governing the admission into Masters' degree programme in the University of Nairobi shall apply.

3.2 Holders of at least upper second class honours BSc. degree or equivalent in natural and biological sciences, engineering and health sciences or any other related discipline from the University of Nairobi or any other institution recognized by the senate of the University of Nairobi.

3.3 Holders of lower second class honours BSc. degree or equivalent in any of the degree programmes specified in 3.2 above with at least 2 years relevant experience or postgraduate diploma from the University of Nairobi or any other institution recognized by the senate of University of Nairobi.

3.4 Holders of pass BSc degree in any of the degree programmes specified in 3.2 above with working experience of at least five years or a relevant postgraduate diploma from the University of Nairobi or any other institution recognized by the senate of University of Nairobi.

REGULATIONS AND SYLLABUS FOR THE MASTER OF SCIENCE DEGREE IN FOOD SCIENCE AND TECHNOLOGY BY COURSE-WORK, EXAMINATION AND THESIS

1. INTRODUCTION

The Department of Food Science and Technology offers a Master of Science Programme in Food Science and Technology with option in either Food Science or Food Technology. The Programme consists of a year of coursework followed by a year of individual research leading to a thesis.

2. ENTRY REQUIREMENTS

i) The common Regulations for the Masters' Degree in all Faculties shall be applicable.

ii) The regulations for the Degree of Master of Science by coursework and thesis in the Faculty of Agriculture shall be applicable.

iii) Candidates must have at least an Upper Second Class Honours Degree or its equivalent in Food Science and Technology from a recognized University.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF A MASTER OF SCIENCE IN APPLIED HUMAN NUTRITION

1. INTRODUCTION:

Advanced training and research in nutrition is necessary in order to address upcoming challenges and emerging issues in nutrition and health. There is an increasing demand on training in applied nutrition over the years. The M.Sc. programme is designed to help the trainees understand malnutrition and its consequences and methods of alleviating nutritional problems. The programme will, therefore, build capacity for the improvement of nutritional policy making in Kenya and other developing countries in African and other regions. The programme will offer practical training using appropriate data collected in Kenya and other African countries.

2. COURSE OBJECTIVES:

2.1 Provide students with abilities to assess community nutritional problems from a multi-disciplinary point of view, while applying information technology in suggesting/working out realistic and feasible intervention measures.

2.2 Provide students with abilities to implement investigations in the field of applied nutrition and analyze, interpret and disseminate findings to the relevant stakeholders.

2.3 Provide students with abilities to effectively use relevant nutrition tools and information to advocate for nutrition actions and influence policies.

3. ENTRY REQUIREMENTS

3.1 The common regulations for the Masters' degrees in all faculties shall apply.

3.2 The following shall be eligible for admission:

i) Holders of at least an upper second class honours degree or its equivalent qualification in Bachelor of Science Food Science, Natural Sciences, Social Sciences or Medical Sciences from University of Nairobi, or equivalent qualification from any other Institution recognized by the Senate.

ii) Holders of at least a Lower Second Class honours degree in the same disciplines as in 3.2(i) from the University of Nairobi or from another Institution recognized by the Senate, but must show proof of academic advancement either through research and publication or postgraduate training.

iii) Pass degree with at least five years of experience and must show proof of academic advancement either through research and publication or postgraduate training.

REGULATIONS FOR DEGREE OF PhD

1. The common regulations for the degree in all faculties shall be applicable.

2. PhD Degrees offered in all disciplines of Food Science and Technology, Food Safety and Quality and Human Nutrition by research and thesis. Admission to PhD requires possession of MSc. Degree in any relevant area.

STAFF LIST
Chairman of Department:
Abong', G.O., BSc, MSc, PhD, (Nairobi)
Professor:
Imungi, J.K., BSc, MSc, (Nairobi), PhD, (Cornell)
Mbugua, S.K., BSc, MSc, (Nairobi), PhD, (Cornell)
Associate Professor:
Okoth, M.W., BSc, (London), MSc, (Nairobi), PhD, (ETH Zurich) Kogi-Makau, W., BEd, MSc, (Nairobi), PhD, (London)
Senior Lecturer:
Wangoh, J., BSc, MSc, (Nairobi), PhD, (ETH Zurich) Abong', G.O., BSc, MSc, PhD, (Nairobi) Kunyanga, C.N., BSc, MSc, PhD, (Nairobi) Mwangi, A.M., BSc, MSc, (Nairobi), PhD, (Wageningen)

Lecturer:
Ngala, S., BSc, (Michigan), MSc, (Nairobi), PhD, (Wageningen) Njue, L., BSc, MSc, (KU), PhD, (Nairobi)
Tutorial Fellow:
Kaindi, D.W., BSc, MSc, PhD, (Nairobi) Andago, A.A., BSc, (Nagpur), PGDE, (KU), MSc, PhD, (Nairobi) Wamiti, J., BSc, MSc, (Nairobi)
Dietetic Preceptors/Clinical Nutrition
Cherere, S., BSc, MSc, (Nairobi) Muthika, C., BSc, MSc, (Nairobi)
Chief Technologist:
Muchiri, J., HND (TUK)

Details on specific admission requirements of the Faculty, credit transfer and exemptions, course structure and duration, examination regulations, course outline and award of degree may be obtained from the Faculty

Please contact
The Dean, Faculty of Agriculture
Tel: 254-020-632121; Email: deanagric@uonbi.ac.ke

FACULTY OF VETERINARY MEDICINE

Dean of Faculty: Maingi Ndichu, BVM, (Nairobi), MSc, (Canada), PhD, (Nairobi) (Ag.)
Associate Dean: Dr. Towet, P.K., BVM, MSc., PhD, (Nairobi)
Senior Administrative Assistant Wainainah, E.W., B.A, (Nairobi)

The Faculty of Veterinary Medicine, which was transferred from Makerere University College to the then Royal College Nairobi, is the oldest Faculty of the University of Nairobi. It was established as a degree granting faculty on 1st July, 1962 with 13 undergraduate students. The Faculty has a long record in Africa South of Sahara of awarding the Bachelor of Veterinary Medicine (BVM) degree. The Faculty has grown, and it has the following departments:-

1. Department of Veterinary Anatomy and Physiology
2. Department of Animal Production
3. Department of Veterinary Pathology, Microbiology and Parasitology
4. Department of Public Health, Pharmacology and Toxicology
5. Department of Clinical Studies

CURRICULUM FOR THE DEGREE OF BACHELOR OF VETERINARY MEDICINE

INTRODUCTION

The Bachelors of Veterinary Medicine degree programme is designed to train personnel with the requisite knowledge and skills to work as Veterinary Surgeons, animal scientists and nutritionists, Veterinary Pharmacists, Public Health Officers as well as epidemiologists among many other skills.

The Faculty of Veterinary Medicine has endeavored to review the curriculum regularly in line with the University of Nairobi's mission of producing high-level manpower. The revised programme has responded to the emerging needs by addressing animals in ASAL regions, emphasizing acquisition of practical skills including business and establishment of mentorship. This ensures that, the graduates are well equipped with the necessary knowledge and skills to meet the expectations of the profession.

COURSE OBJECTIVES:

To train manpower with skills to meet all national needs in livestock production and health.

Specific Objectives

1.1 To train graduates equipped with skills to diagnose, treat and prevent livestock and wildlife diseases
1.2 To train graduates with skills to deal with all Public Health issues as relates to animals and their products
1.3 To equip graduates with skills and potential to serve in relevant tertiary educational and research institutions in Kenya, regionally and internationally.
1.4 To enhance adequately entrepreneurial skills among graduates to make them competitive in the world economy.

REGULATIONS AND SYLLABUS FOR THE DEGREE BACHELOR OF VETERINARY MEDICINE

2.1 ENTRY REQUIREMENTS

Candidates eligible for admission to the above degree programme will be required to be holders of the following qualifications:-

i) A minimum of a C+ in KCSE with at least C+ (plus) in Biology or Biological Science, Chemistry and any one of the following subjects: Maths,Physics or Physical Science or Agriculture.

ii) Two principals and one subsidiary pass at KACE level or equivalent, one of which must be in Biology and the other in any science subject.
iii) A minimum of a C (plain) in KCSE with an ordinary diploma in Animal Health/ Agriculture/Medical Laboratory Technology from a recognized institution.
iv) Holders of a degree in a Biological Science from an institution recognized by University of Nairobi Senate.
v) Any other qualification equivalent to any of the above, subject to approval by the Senate.

BACHELOR OF SCIENCE IN WILDLIFE MANAGEMENT AND CONSERVATION,

BACHELOR OF SCIENCE IN WILDLIFE AND FISHERIES MANAGEMENT,

BACHELOR OF SCIENCE IN WILDLIFE AND WETLANDS MANAGEMENT AND CONSERVATION; *and*

BACHELOR OF SCIENCE IN WILDLIFE AND TOURISM MANAGEMENT

INTRODUCTION

The BSc. degree in wildlife is designed to produce personnel with the requisite knowledge and skills to work in wildlife, fisheries, tourism, environment and related fields. Wildlife, fisheries and tourism are key sectors in national economies.

In Kenya, tourism is one of the largest foreign exchange earners while fisheries alone earns the country more than five billion shillings in foreign currency. Environmental management and conservation plays a major role in planning and sustainable development worldwide. This requirement demands adequate capacity building in both personnel and technology. The above sectors are expanding rapidly and so is the demand for the relevant skilled personnel. In recognition of this demand, the Faculty of Veterinary Medicine together with Kenya Wildlife Services (KWS) have teamed up to offer a hands-on, practical oriented training in these fields. The combined resources of these two institutions in terms of manpower and facilities are best placed to provide this training.

Goal

The overall goal is to fill an existing gap in training of practically oriented skilled personnel to work in areas of wildlife, fisheries, tourism and environmental management and conservation.

COURSE OBJECTIVES

The specific objectives will be to train personnel with relevant wildlife skills in:
i) Management and Conservation (wildlife)
ii) Fisheries Management
iii) Wetlands Management and Conservation
iv) Tourism Management

Environmental management as it relates to the above fields will underpin the training in these programmes.

ENTRY REQUIREMENTS

Candidates eligible for admission to the above degree programmes will be required to be holders of the following qualifications:
1. A minimum of a C+ in KCSE with a C (plain) in Biology or Biological Science and any one of the following: Mathematics, Chemistry, Physics or Physical Sciences, Geography and Agriculture.
2. Two principals and a subsidiary pass in KACE. One of these passes must be in Biology and the other in any science subject.
3. A minimum of a C- (minus) in KCSE with a diploma in a biological science from a recognized institution.
4. Holders of a degree in a biological science from a recognized institution.
5. Any other qualification equivalent to any of the above, subject to Senate's approval.

REGULATIONS AND SYLLABUS FOR BACHELOR OF SCIENCE IN FISHERIES AND AQUACULTURE MANAGEMENT

1. INTRODUCTION

Fisheries and aquaculture contribute to food and nutritional security and sustain the livelihoods of many households which are engaged in subsistence or related commercial activities. Despite the increased demand for fish and fish products for local and export markets, the subsector is threatened by environmental pollution, degradation of wetland ecosystems (*including water hyacinth*), habitat and biodiversity loss, and inadequate feeds and fish fingerlings. Although the economic stimulus package for construction of fish ponds is a noble idea, the shortage of skilled human resource is one of the major constraints to the optimal performance of the enterprise. The implementation of this course will therefore contribute to

human resource development required to provide extension, research, training, technology transfer and business development services in the fisheries and aquaculture subsector.

2 COURSE OBJECTIVES

i) To develop human resource capacity in Fisheries and Aquaculture Management.

ii) To develop entrepreneurship and relevant skills for industrial application in the fish value chain.

iii) To provide training and research in Fisheries and Aquaculture Management to improve food security and community livelihoods.

3. ENTRY REQUIREMENTS

3.1. The common admission requirements for the Bachelor of Science degrees in the Faculty of Veterinary Medicine, University of Nairobi shall apply. In addition, applicants with the following minimum qualifications shall be admissible:

3.1.1. Kenya Certificate of Secondary Education (KCSE) with mean grade C+ or equivalent with at least a C in Biology, or Biological Science, and any one of the following subjects; Chemistry, Physics, Physical Sciences, Agriculture, Mathematics or Geography.

3.1.2. KCSE mean grade C- or equivalent plus a Certificate and Diploma in a relevant field from an institution recognized by the Senate.

3.1.3. 'O' level Division II or equivalent with the subjects indicated in 2.1. above; plus a Diploma in a relevant field from an institution recognized by the Senate.

3.1.4. 'O' level Division III or equivalent plus a Certificate and Diploma in a relevant field from institutions recognized by the Senate.

3.1.5. Diploma in Biological Sciences or relevant field from an institution recognized by the Senate and a mean grade C in KCSE or equivalent.

3.1.6. 'A' level with two principal passes or equivalent in Biology, and any one of the following subjects; Chemistry, Geography, Physics or Mathematics.

3.1.7. Higher National Diploma in Biological Sciences or relevant field from an institution recognized by the Senate and should have attained a mean grade C in KCSE or equivalent.

3.1.8. Bachelor of Science degree in Biological Sciences from an institution recognized by the Senate.

3.1.9. Equivalent qualifications to the above from institutions recognized by the Senate.

REGULATIONS AND SYLLABUS FOR DIPLOMA IN ANIMAL HEALTH AND PRODUCTION

ENTRY REQUIREMENTS:

Applicants eligible for this programme shall be required to have the following minimum qualifications:

1. Holders of a Kenya Certificate of Secondary Education (KCSE) aggregate of C and a grade of at least C in Biology or Biological sciences, Chemistry or Physical Science and any of the following science subject: Mathematics, Physics or Agriculture.

2. Holders of Kenya Certificate of Education (KCE) Division II with at least a credit in chemistry, biology and any other one science subject or Physical Science or Agriculture.

3. Holders of an "A" level certificate with a minimum of one principal pass and at least a subsidiary pass in biology and chemistry.

4. Holders of a credit pass certificate in animal health/agriculture from institutions recognized by the University senate with at least an aggregate of C- at KCSE or Division III at KCE.

5. Holders of a diploma in biomedical discipline recognized by senate.

6. Any other equivalent qualification recognized by senate.

REGULATIONS AND SYLLABUS FOR THE DIPLOMA IN LEATHER TECHNOLOGY

1. INTRODUCTION

The Kenyan economy is largely based on Agriculture, which contributes 30% of the Gross Domestic Product. Ten percent of this is derived from the livestock sector. The need to improve capacity in the livestock sector, therefore, cannot be overemphasized. While the sectors dealing with primary livestock products such as milk, have been taken care of, the leather industry has largely been neglected. Currently, the highest qualification attainable in leather technology in Kenya is only up to certificate level, offered only at the Animal Health and Industry Training Institute (AHITI) at Kabete. A craft certificate course is also offered at the Kenya Industrial Training Institute (KITI) in Nakuru. Any further acquisition of such requisite specialized knowledge in leather technology can only be accomplished by sending students abroad. This is not always timely and cost-effective. In essence, therefore, there is an overwhelming need and justification to open up opportunities for such

training within locally accessible institutions. This effort should more appropriately be initiated at Diploma level, leading to award of a Diploma in Leather Technology. The holders of the Diploma in Leather Technology would be expected to work in field extension and tannery industry, which serve to facilitate development of expanded capacities in leather industry and in effect, enhance application of leather technology for application at grassroots, national and international levels. Examples of such services would include animal husbandry, slaughtering and flaying, hides and skins improvement, leather tanning, leather goods manufacture and business development, within the leather industry.

2. COURSE OBJECTIVES:-

i) To develop human resource with technical skills and practical expertise required to practice in the public and private sectors of the leather industry in Kenya and Africa.

ii) To contribute to capacity building of in-service personnel in the leather industry by providing a course leading to a diploma in leather technology.

3. ENTRY REQUIREMENTS

The common admission requirements for diploma courses of the University of Nairobi, Faculty of Veterinary Medicine shall apply. Applicants with the following minimum qualifications shall be admissible:

3.1. Kenya Certificate of Secondary Education (KCSE) mean grade C or equivalent with at least grade C in Chemistry, and one other subject such as Biology, or Physics or Physical Science.

3.2. KCSE mean grade C- with at least grade C in Chemistry or equivalent plus a Certificate in Leather Technology, or Hides and Skins Improvement, or Animal Health and Production, or Range Management, or Laboratory Technology or a relevant professional field from institutions recognized by the Senate.

3.3. 'O' level Division III with at least a pass in Chemistry or Physical Sciences.

3.4. 'A' level with a minimum of two subsidiary passes or equivalent; one of which must be in Chemistry, and the other in either Biology, or Physics, or Mathematics, or Geography.

3.5. Equivalent qualifications to the above from institutions recognized by the Senate.

STAFF LIST
Chairman of Department
Jung'a, J.O., BSc, Mphil, (Moi), PhD, (Nairobi), TUD, (Germany)
Professor
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Tutorial Fellow
Kibegwa, F.M., BVM, MSc, (Nairobi) Serem, J., BVM, MSc, (Nairobi)
Chief Technologist
Njuguna, A., HND, Dip SLT., (Kenya Poly), DNM, (KIM), MBA, (Moi) Itenya, A.S., BSc,, (JKUAT), MSc, (Nairobi)

REGULATIONS AND SYLLABUS FOR BACHELOR OF SCIENCE IN LEATHER SCIENCE AND TECHNOLOGY

1. INTRODUCTION

The course leading to the award of the degree of Bachelor of Science in Leather Science and Technology provides a scientific avenue for training skilled personnel in various aspects of the leather subsector. Members of this profession are considered to be important catalysts for industrialization. They are responsible for provision of valid and reliable leather information on which important decisions are made that affect the livestock industry and the leather subsector. In order to achieve some of the Millennium Development Goals, human resource training is an important part of the capacity building strategy for the leather subsector. The implementation of the undergraduate programme in Leather Science will contribute to the development of human resource required to offer extension, research, and training, technical and business development services in the leather industry.

2. COURSE OBJECTIVES:-

i) To produce human resource with technical expertise in Leather Science and Technology.

ii) To contribute to capacity building of the service providers in the leather industry.

3. ENTRY REQUIREMENTS

The common admission requirements for the Bachelor of Science degrees the Faculty of Veterinary Medicine, University of Nairobi shall apply. In addition, applicants with the following minimum qualifications shall be admissible:-

3.1 Kenya Certificate of Secondary Education (KCSE) with mean grade C+ or equivalent with at least a C in Chemistry, and either one of the following subjects; Biology, or Biological Science, or Physics, or Physical Science or Agriculture or Mathematics.

3.2 KCSE mean grade C– or equivalent plus a Certificate and Diploma in a relevant field from an institution recognized by the Senate.

3.3 'O' level Division II or equivalent with the subjects indicated in 3.1 above; plus a Diploma in a relevant field from an institution recognized by the Senate.

3.4 'O' level Division III or equivalent plus a Certificate and Diploma in a relevant field from institutions recognized by the Senate.

3.5 Diploma in Leather Technology or relevant field from the University of Nairobi or institutions recognized by the Senate and a mean grade of C in KCSE or equivalent.

3.6 'A' level with two principal passes or equivalent in Chemistry, and Biology, or Physics or Mathematics, or Geography.

3.7 Higher National Diploma in Leather Technology, Laboratory Technology or relevant field from institutions recognized by the Senate and should have attained a mean grade C in KCSE or equivalent.

3.8 Bachelor of Science degree from an institution recognized by the Senate.

3.9 Equivalent qualifications to the above from institutions recognized by the Senate.

REGULATIONS FOR THE DEGREE OF MASTER OF SCIENCE IN THE FACULTY OF VETERINARY MEDICINE (MSc)

The common regulations of the Master's Degree in all Faculties shall be applicable The following shall be eligible for registration for the degree of Master of Science in the Faculty of Veterinary Medicine:

i) A Bachelor of Veterinary Medicine or a Bachelor of Science of the University of Nairobi.

ii) A graduate of another recognized University who has been admitted by the Senate to the status of Bachelor of Veterinary Medicine or of Bachelor of Science in the University. Provided that any person wishing to be registered for the degree may be required to show evidence of his or her competence in a preliminary examination in the discipline of the proposed studies.

iii) The examination for the degree shall consist of a thesis showing the results of supervised research, acquaintance with methods of research and knowledge of the background of the area of specialization, as the Faculty Board may recommend and the Senate may approve.

iv) The candidate for the degree is required to present himself for an oral examination, in addition to such written examination as may be prescribed.

MASTER OF SCIENCE IN THE DEPARTMENT OF ANIMAL PRODUCTION

INTRODUCTION

Several very significant factors are affecting animal production today. There is a consistent increasing demand for animal products as populations increase and their standard of living improves. These population increases are imposing proportionally greater demands on the resources of the semi-arid and arid-lands, where livestock are the main means of utilizing the resources; it is also becoming apparent that the interaction between livestock and crop plays a key role in improving crop productivity. For these reasons, there is an increasing demand for professionally competent staff, in government services, research and teaching institutions.

With this in mind, the Department has developed the following Master of Science programmes.

1. Master of Science in Animal Nutrition and Feed Science
2. Master of Science in Animal Genetics and Breeding
3. Master of Science in Livestock Production Systems
4. Master of Science in Poultry Science

ENTRY REQUIREMENTS

The common regulations for the Masters' degrees in all faculties shall apply. Those eligible for admission into the various courses shall be as follows:

MASTER OF SCIENCE IN ANIMAL NUTRITION AND FEED SCIENCE

The following shall be eligible for admission.

1. Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;
   - **a)** Bachelor of Veterinary Medicine
   - **b)** Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range Management, Food Science and Technology, or Biochemistry
2. Holders of Lower Second-class Honours degree or equivalent qualifications as listed above with at least two years relevant experience
3. Holders of Pass degree or equivalent qualifications as listed above with either a relevant post-graduate diploma or five years experience.

MASTER OF SCIENCE IN ANIMAL GENETICS AND BREEDING

The following shall be eligible for admission:

4. Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;
   - **c)** Bachelor of Veterinary Medicine
   - **d)** Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range Management, Food Science and Technology, Wildlife or Zoology.
5. Holders of Lower Second-class Honours degree or equivalent qualifications as listed above with at least two years relevant experience;
6. Holders of Pass degree or equivalent qualifications as listed in above with either a relevant post-graduate diploma or five years experience.

MASTER OF SCIENCE IN LIVESTOCK PRODUCTION SYSTEMS

The following shall be eligible for admission:

7. Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;
   - **e)** Bachelor of Veterinary Medicine
   - **f)** Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range management, Wildlife, Zoology & Agricultural economics.
8. Holders of Lower Second-class Honours degree or equivalent qualifications as listed above with at least two years relevant experience;
9. Holders of Pass degree or equivalent qualifications as listed in above with either a relevant post-graduate diploma or five years experience.

MASTER OF SCIENCE IN POULTRY SCIENCE

The following shall be eligible for admission:

10. Holders of the following degree awards of the University of Nairobi or equivalent qualifications from universities or institutions recognized by the senate of the University of Nairobi;
    - **g)** Bachelor of Veterinary Medicine
    - **h)** Bachelor of Science with at least Upper Second-Class Honours in Agriculture, Range Management, Food Science and Technology.
11. Holders of Lower Second-class Honours degree or equivalent qualifications as listed above with at least two years relevant experience;
12. Holders of Pass degree or equivalent qualifications as listed above with either a relevant post-graduate diploma or five years experience.

DOCTOR OF PHILOSOPHY DEGREE IN THE DEPARTMENT OF ANIMAL PRODUCTION

INTRODUCTION

This programme will be a follow-up of the respective master's programmes, except where otherwise provided for. Students will be required to work on areas that have not been worked on before. Originality of research (*procedure or area covered*) is of paramount importance.

ENTRY REQUIREMENTS

The common regulations for the doctor of Philosophy degrees in all faculties of the University shall apply.

Admission into the programmes shall be open to holders of Master of Science degree in the respective field of specialization, either from the University of Nairobi or from other University recognized by the senate of the University of Nairobi.

Provision is given for upgrading of a Master's programme directly to PhD. level, if the quality of research is high and the senate allows it.

DEPARTMENT OF PUBLIC HEALTH, PHARMACOLOGY AND TOXICOLOGY

REGULATIONS AND SYLLABUS FOR THE DEGREE OF VETERINARY EPIDEMIOLOGY AND ECONOMICS

1.0 INTRODUCTION

In the undergraduate curriculum for training Bachelors of Veterinary Medicine, student training is geared towards producing general veterinary practitioners. However, the needs of animal resources sector also require field and administrative personnel specialized in veterinary epidemiology and economics who can contribute be advising relevant government departments and agencies on effective policies for disease control and prevention. This is an objective which is in-line with the country vision 2030, when Kenyan is expected to achieve a middle level income, and therefore self-sufficiency in food production. This is in line with the University of Nairobi's mission of providing quality education, training and support for research and community service to the Kenyan people. The course is designed for training of experts who will contribute to disease control programmes within the region.

2.0 ENTRY REQUIREMENTS

Minimum Admission Requirements

The common regulations for the Masters Degree in all Faculties shall be applicable. Admission into the course will be open to:

1. Holders of the degree of Bachelor of Veterinary Medicine from the University of Nairobi
2. Other applicants who have obtained degrees from other universities approved by Senate as being equivalent to Bachelor of Veterinary Medicine of the University of Nairobi.

3.0 COURSES OFFERED FOR THE PROGRAMME

List of Courses

All the ten courses are compulsory

Year 1
Semester I
Code Course title
JPH 615 Applied Biostatistics
JPH 617 Epidemiology
JPT 613 Research Methodology and Scientific Communication
JPH 619 Molecular Epidemiology
JPH 621 Livestock Economics
Semester II
JPH 620 Quantitative Epidemiology
JPH 622 Monitoring and Evaluation of Health Projects
JPH 624 Food systems and Health
JPH 628 Applied Immunology
JPH 626 Statistics for Epidemiologists
Year 2
JPH 701 Research and thesis writing

MASTER OF SCIENCE IN PHARMACOLOGY AND TOXICOLOGY

1.0 INTRODUCTION

This Master of Science Degree in Pharmacology and Toxicology is designed for Veterinary, Medical, Pharmacy and other graduates involved in the protection and improvement of animal and human welfare and the environment. The post-graduate programme is intended to train graduates to undertake research, and teach in the academic institutions and also undertake other related responsibilities in government service and private sector. Graduates will be exposed to a broad study of drugs, toxic compounds, environmental pollutants, analytical techniques, molecular techniques and recent advances in pharmacology and toxicology research. This is an objective which is in-line with the country vision 2030, when Kenyan is expected to achieve a middle level income, and therefore self-sufficiency in food production. This is in line with the University of Nairobi's mission of providing quality education and support for research and community service to the Kenyan people.

3. ENTRY REQUIREMENTS

3.1. Minimum Admission Requirements

The common regulations for the Master's Degree in all Faculties shall be applicable. Admission into the course will be open to:

1. Holders of the following degrees of University of Nairobi or any other University recognized by University of Nairobi Senate:
   a) Bachelor of Veterinary Medicine.
   b) Bachelor of Medicine and Bachelor of Surgery
   c) Bachelor of Pharmacy
   d) Bachelor of Dental Surgery
   e) Bachelor of Nursing
2. Holders of the following degrees of at least second class honors of the University of Nairobi or equivalent qualifications from a University recognized by the University of Nairobi Senate.
   a) BSc. in Biomedical Technology
   b) BSc in Biochemistry
   c) BSc in Wildlife and Fisheries Management
   d) BSc Animal Health/Sciences
   e) BSc Nursing

The applicants should have taken Pharmacology and Toxicology course at undergraduate level.

1. Holders of lower second class honors degree in areas specified above in 2(a) to (e) with 2 years of research, work or teaching experience.
2. Holders of a pass degree in areas specified above in 2(a) to (e) with a postgraduate diploma or with 5 years' experience in the relevant area.
3. Holders of equivalent Bachelor's degrees from other Universities recognized by University of Nairobi Senate.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF VETERINARY PUBLIC HEALTH (MVPH)

1.0 INTRODUCTION

Veterinary Public Health (VPH) is a component of public health activities devoted to the application of professional veterinary skills, knowledge and resources to the protection and improvement of human health. The role of public health in the global health agenda is to promote activities that contribute to the improvement of health for all and help realize its objectives. The World Health Organization (WHO), Food and Agriculture Organization (FAO) and World organization for animal Health (OIE) have recognized the increasing importance of VPH for both developing and developed countries, as well as its role in helping to achieve the Health for all. The predominant concern of VPH during the 1970s and for most of the 1980s related to risks of chemical pollution of the environment and the food chain (e.g. from pesticides, groundwater pollution by animal waste, natural toxins and drug residues in food). However, in the past three decades, emerging and re-emerging zoonotic diseases have acquired global significance for VPH. In addition, resistance to antimicrobials among zoonotic bacteria has also become an issue of increasing concern for animal production and human health. Common to all these emerging problems have been new trends in animal production practices, globalization of the food industry, continuing expansion of international travel and international trade in animals and animal products. These developments call for increased levels of epidemiological surveillance and preparedness, and for novel approaches to control and prevent these zoonotic infections. In addition, countries and food businesses are required to implement international agreements and conventions (e.g. the World Trade Organization Agreement on the Application of Sanitary and Phyto-sanitary measures) as well as national regulations to facilitate local and international trade. This training will provide experts to deal with these emerging public health concerns.

2.0 COURSE OBJECTIVES

1. To provide graduates with up-to date knowledge and expertise needed to provide adequate response to the global changes that are putting great demand on VPH activities.

2. To produce graduates with strong scientific and technical competence in the prevention and control of zoonotic and food borne diseases.

3. To provide graduates with the latest methods and concepts to improve the delivery of animal and human health services.

3.0 ENTRY REQUIREMENTS

Minimum Admission Requirements

The common regulations for the Masters' Degrees of the University of Nairobi shall apply. The following shall be eligible for admission:-

1. Holders of the following degrees of University of Nairobi or any other university recognized by University of Nairobi senate:
   a) Bachelor of Veterinary Medicine,
   b) Bachelor of Medicine and Surgery
2. Holders of the following degrees of at least second class honors of the University of Nairobi or equivalent qualifications from a University recognized by the University of Nairobi Senate
   a) Bachelor of Biomedical Technology,
   b) Bachelor of Science in Wildlife Management,
   c) Bachelor of Science Fisheries and Aquatic management,
   d) Bachelor of Science in Microbiology,
   e) Bachelor of Science in Biotechnology
   f) Bachelor of Science in Animal Science,
   g) Bachelor of Science in Animal Health
   h) Bachelor Science in Health Public
3 Holders of equivalent degrees from other universities recognized by University of Nairobi Senate

4.0 COURSES OFFERED FOR THE PROGRAMME

List of courses

YEAR 1	
Semester I	
Code	**Course title**
JPH 610	Veterinary Public Health Administration and Practice
JPH 613	Applied Biostatistics
JPT 615	Research Methodology and Scientific Communication
JPH 614	Epidemiology
JPH 618	Molecular Epidemiology
Semester II	
JPH 621	Food Hygiene and Quality Assurance
JPT 620	Food and Environmental Toxicology
JPH 622	Monitoring and Evaluation of Health Projects
JPH 624	Zoonoses and One Health
JPH 628	Applied Immunology
YEAR 2	
JPH 702:	Research and thesis writing

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN NATURAL PRODUCTS AND BIOPROSPECTING

1.0 INTRODUCTION:

Sub Saharan Africa is grappling with the challenge of attaining the Millennium Development Goals due to the rapidly growing population and dwindling potential for agriculture and range animal production. The region's alternative wealth is however found in its natural resources that offer promising benefits as an industry. They are accessible to rural people and are ecologically and culturally adapted to local conditions, thereby underpinning their role as a 'biodiversity-friendly' sustainable industry, with low barriers to entry.

Natural Products science is a multi- and inter-disciplinary science which addresses the problems and issues associated with managing Natural Products (NP) chains and systems including NP biodiversity and ecology, indigenous knowledge systems, intellectual property issues, NP development, value addition, quality, marketing and trade. There are many NP related challenges facing the region, including knowledge gaps, biodiversity loss, insufficient human capacity, over exploitation, and the very real possibility of resource loss associated with climate change and population pressure. As the Sub Saharan African region improves politically and economically, the importance of Natural Products resources will assume increasing significance.

The development of solutions to problems of Sub Saharan Africa natural products industry is hindered by a shortage of trained personnel and facilities, especially at high levels of academic and professional expertise, resulting in insufficient grass root trickle down effect. This mainly arises from limited funding to train the technical capacities. It is for this reason, that a network involving, Kenya, Uganda and Tanzania was formed to develop a curriculum to train the personnel. The curriculum has been discussed in stakeholder's workshops.

The Master of Science Curriculum in Natural Products and Bioprospecting will train a cadre of scientists who will promote natural products science and technology competencies in the region with a view to securing and sustainably engaging the African NP industry for socio-economic development. Graduates will conduct demand driven research in all areas of natural products sciences.

2.0 COURSE OBJECTIVES:

i) To produce graduates with knowledge in Natural Products and Bioprospecting for social economic development.

ii) To train an effective cadre of scientists to undertake research in Natural Products

iii) To produce graduates with strong scientific and technical competence in Natural products science

iv) To provide graduates with the latest methods and concepts in natural bioprospecting

3.0 ENTRY REQUIREMENTS

i) The common regulations for the Masters Degrees in all faculties shall apply:
ii) The regulations for the Degree of Master of Science in the Faculty of Veterinary Medicine shall be applicable.
iii) Holders of the following degrees of the University of Nairobi or other university recognized by University of Nairobi senate
  a) Bachelor of Veterinary Medicine
  b) Bachelor of Medicine and Bachelor of Surgery
  c) Bachelor of Pharmacy
  d) Bachelor of Science in Nursing
  e) Bachelor of Dental Surgery
iv) Holders of Bachelor of Science (Biomedical Technology, Zoology, Biology, Biochemistry, Chemistry, Animal Science and Agriculture) of the University of Nairobi or other university recognized by University of Nairobi senate with at least upper second-class honours or lower second class honours with a minimum of 2 years work experience in a relevant field.
v) Holders of Master of Science degree in related disciplines.
vi) Holders of a Bachelor's degree or an equivalent qualification in a relevant discipline from other institutions recognized by the Senate of the University of Nairobi.
vii) Holders of a pass degree or equivalent qualifications as listed above with either a relevant post-graduate diploma or five years work experience.

REGULATIONS AND SYLLABUS FOR THE MASTER OF SCIENCE IN LEATHER SCIENCE

1. INTRODUCTION

The course leading to the award of the degree of Master of Science in Leather Science is an advanced course designed to produce skilled personnel with principles and techniques of scientific research in leather science and technology. The trainees will play an important role in technological innovations and processes for industrialization in the leather subsector. The livestock industry is an important avenue for achieving some of the Millennium Development Goals in most developing countries. In particular, the leather industry has been identified as a major component of the vision 2030 in Kenya. However, the country lacks qualified human resource required to achieve the set goals; as there are very few individuals with postgraduate qualifications in Leather Technology, most of them having undertaken their training from overseas institutions. Implementation of this course will reduce the costs of overseas training and provide technical expertise required in the leather subsector.

2.0 COURSE OBJECTIVES:

i) The produce professionals with postgraduate expertise in Leather Science required for research, science, technology and innovations in the leather industry value chain.
ii) To provide opportunities for further education to holders of the Bachelor of Science degree in Leather Science or equivalent qualifications.

3. ENTRY REQUIREMENTS

The common requirements for admission to the Masters degree courses of the Faculty of Veterinary Medicine, University of Nairobi shall apply. The following shall be admissible:-

3.1. Holders of at least an upper Second Class Honours degree of Bachelor of Science in Leather Science, Chemistry, Biology, Animal Science, Biochemistry, Biomedical Technology or Animal Production of the University of Nairobi or from other institutions recognized by the Senate.
3.2. Holders of at least a Lower Second Class Honours degree in any of the disciplines listed in (3.1) above, with at least two years work experience.
3.3. Holders of a Pass degree in any of the disciplines listed in (3.1) above, with a least five years work experience.
3.4. Holders of the Bachelor of Veterinary Medicine degree of the University of Nairobi.
2.5. Holders of any other appropriate degrees approved by the Senate.

STAFF LIST
Chairman of Department:
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Macharia, S.M., BVM, MSc, (Nairobi)
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Oguna, M.J., BVM, MSc, (Nairobi)
Senerwa, D.M., BVM, MSc, (Nairobi)
Mwondu, J.M., BSc, MSc, (Northampton)
Okumu, J.O., BSc, (Northampton), MSc, (Maseno)
Kimaiga, D., BSc, (Egerton), MSc, (Nairobi)
Nduru, A.K., BSc, (JKUAT), MSc, (Nairobi)
Principal Technologist:
Nduhiu, G., MIS, (KP), MSc, (KU), DPM, (KIM)

DEPARTMENT OF VETERINARY PATHOLOGY, MICROBIOLOGY AND PARASITOLOGY

i) Master of Science in Veterinary Pathology, Microbiology and Parasitology
ii) Master of Science in Veterinary Pathology and Diagnostics
iii) Master of Science in Clinical Pathology and Laboratory Diagnosis
iv) Master of Science in Applied Veterinary Parasitology
v) Master of Science in Applied Microbiology with 4 options: Bacteriology, Virology, Mycology and Industrial and Environmental Microbiology
vi) Master of Science in Fish Science

ENTRY REQUIREMENTS

The common regulations for the Masters' degree in all faculties of the University of Nairobi shall apply. Those eligible for admission into the various courses shall be as follows:-

MASTER OF SCIENCE IN VETERINARY PATHOLOGY, MICROBIOLOGY AND PARASITOLOGY

Holders of Bachelor of Veterinary Medicine (BVM) only from University of Nairobi or other University recognized by the Senate of the University of Nairobi.

MASTER OF SCIENCE IN VETERINARY PATHOLOGY AND DIAGNOSTICS

a) Holders of Bachelor of Veterinary Medicine (BVM) degree of the University of Nairobi or other University recognized by the Senate of the University of Nairobi.
b) Holders of BSc. in Animal Science degree of the University of Nairobi, where Pathology was taken and passed, with at least upper second class honours, or equivalent qualification from a University recognized by the Senate of the University of Nairobi
c) Holders of lower second class honors degree in BSc. Animal Science, specified above, and at least 3 years' research/work experience.
d) Holders of a pass degree in BSc. Animal Science, specified above, and a postgraduate diploma in the relevant areas.

MASTER OF SCIENCE IN CLINICAL PATHOLOGY AND LABORATORY DIAGNOSIS

a) Holders of Bachelor of Veterinary Medicine (BVM) degree of the University of Nairobi or any other University recognized by the Senate of University of Nairobi

b) Holders of Bachelor of Medicine and Bachelor of Surgery degrees

MASTER OF SCIENCE IN APPLIED VETERINARY PARASITOLOGY AND MASTER OF SCIENCE IN APPLIED MICROBIOLOGY

a) Holders of the following degree awards of the University of Nairobi or any other University recognized by the Senate of the University of Nairobi:-
- **i)** Bachelor of Veterinary Medicine
- **ii)** Bachelor of Medicine and Bachelor of Surgery
- **iii)** Bachelor of Dental Surgery
- **iv)** Bachelor of Pharmacy
- **v)** Bachelor of Science in Nursing

b) Holders of the following degrees, of at least upper second class honours of the University of Nairobi, or equivalent qualification from a University recognized by the Senate of the University of Nairobi:-
- **i)** BSc. in Food Science and Technology
- **ii)** BSc. in Biomedical Technology
- **iii)** General Bachelor of Science degree, where Zoology was taken and passed

c) Holders of lower second class honours degree in areas specified in (b) above, and at least 3 years' research/work experience

d) Holders of a pass degree, in areas specified in (b) above, and postgraduate diploma in the relevant areas.

MASTER OF SCIENCE IN FISH SCIENCE

a) Holders of Bachelor of Veterinary Medicine degree of the University of Nairobi or any other University recognized by the Senate of the University of Nairobi.

b) Holders of the following degrees of at least upper second class honours, of the University of Nairobi, or equivalent qualifications from a University recognized by the Senate of the University of Nairobi:-
- **i)** Bachelor of Science in Wildlife and Fisheries
- **ii)** Bachelor of Science in Biomedical Laboratory Technology
- **iii)** Bachelor of Science in Agriculture
- **iv)** Bachelor of Science in Food Science and Technology
- **v)** Bachelor of Science in Range Management
- **vi)** General Bachelor of Science degree, where Zoology was taken and passed

c) Holders of lower second class honours degree in areas specified in (b) above, and at least 3 years' research/work experience.

d) Holders of a pass degree in areas specified in (b) above, and a postgraduate diploma in the relevant areas

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Chairman of Department:

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Professor:

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Kanyari, P.W.N., BVM, MSc, (Nairobi), PhD, (Queensland)

Associate Professor:

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Chief Technologist:
Weda, E.H., DMLT, HND, (Kenya Poly), IIPEI (IIP, UK), LAB MGT (Moi)

DEPARTMENT OF CLINICAL STUDIES

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF VETERINARY MEDICINE (MVETMED)

1.0 INTRODUCTION

The increased demand for livestock and livestock products, and Small Animal expertise calls for specialized knowledge and skills. This requires new technologies and approaches to meet the demands. A changing society, which is informed, with specific needs and the need for environmental conservation with specific demands, requires a specialized veterinarian.

The programme aims to produce a graduate who becomes a specialist. The graduate will have a better focused career path and will be responsive to both public and private sector needs. The graduate will be in tandem with regional and international trends and will be more inspired and motivated to provide quality services.

The Masters programme combines a taught course and a research component in clinical veterinary medicine. The candidate may pursue the following areas; bovine medicine and herd health, ovine and caprine medicine and flock health, porcine medicine and herd health, camel medicine and herd health, equine medicine and herd health and small animal medicine. This programme will enable the trainee to acquire adequate skills for planning, analyzing, executing, reporting and evaluating research projects.

2.0 COURSE OBJECTIVES

The objectives of the course are to produce:-

i) Specialist in one of the following areas; bovine medicine and herd health; ovine and caprine medicine and flock health; porcine medicine and herd health; camel medicine and herd health; equine medicine and herd health and small animal medicine, by equipping the candidate with adequate knowledge, skills and attitudes.

ii) A graduate who is in tandem with regional and international trends.

vi) A graduate with adequate knowledge, skills and attitudes for planning, analyzing, executing, reporting and evaluating research projects.

v) A graduate who can teach and carry out research at the University and other tertiary institutions.

3.0 ENTRY REQUIREMENTS

The common regulations for Masters Degree in all Faculties of the University of Nairobi shall be applicable. In addition the following shall be eligible:

i) Holders of Bachelor of Veterinary Medicine degree of University of Nairobi.

ii) Holders of a Bachelor degree from other universities approved by the senate as equivalent to the Bachelor of Veterinary Medicine degree of the University of Nairobi and be registrable with the Kenya Veterinary Board.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF VETERINARY THERIOGENOLOGY (MSC. THERIOGENOLOGY)

1.0 INTRODUCTION

Reproductive wastage constitutes a large part of potential genetic losses in animals worldwide. The veterinarian plays an important role in management and prevention of most conditions causing these losses. The main objective of this course is to enhance capacity building in the area of Theriogenology among veterinarians by training individuals to attain competence in handling cases of reproduction and obstetrics and thus ensure optimal animal productivity. Graduates from this course

will be enabled to seek registration as Consultants with the Kenya Veterinary Board as well as other international relevant bodies.

2.0 COURSE OBJECTIVES

The objectives of the programme are to equip the graduate with:

i) Specialized knowledge and skills to handle reproductive problems.

ii) The capacity to be recognized as a consultant with the Society of Theriogenology.

3.0 ENTRY REQUIREMENTS

The common regulations for Masters Degree in all Faculties of the University of Nairobi shall be applicable. The following shall be eligible.

i) Holders of Bachelor of Veterinary Medicine degree of University of Nairobi.

ii) Holders of a veterinary qualification from any other university, as long as that degree is approved by the senate of the University of Nairobi and is registrable with the Kenya Veterinary Board.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF VETERINARY SURGERY (MVETSURG)

1. INTRODUCTION

The Master of Veterinary Surgery degree is intended to equip the graduates with specific surgical skills that will enable them develop specialties for surgical practice in specific fields. The course will entail specialized course including principles of veterinary surgery, veterinary diagnostic imaging, soft tissue surgery, veterinary orthopaedics and dentistry, anesthesiology, emergency and critical care. The course is also intended to train such clinicians on how to carry out scientific research, publication and introduce them to teaching of undergraduate students in veterinary surgery.

2. COURSE OBJECTIVES

The objectives of the course are to:-

i) Equip graduate veterinarians with knowledge, skills and competence in specialized areas of veterinary surgery.

ii) Promote aptitude and clinical proficiency of graduate veterinarians in diagnosing, surgical handling, postoperative management and prognostication of animals with surgical disease/condition.

iii) Provide graduate veterinarians with opportunities to pursue careers in specialist surgical practice, research and teaching.

iv) Promote knowledge of surgical science through research and publications.

3. ENTRY REQUIREMENTS

The common regulations for Masters Degree in all Faculties of the University of Nairobi shall be applicable. The following shall be eligible:

i) Holders of the Bachelor of Veterinary Medicine degree of the University of Nairobi.

ii) Holders of a Bachelor's degree from other Universities approved by the Senate as equivalent to the Bachelor of Veterinary Medicine degree of the University of Nairobi.

MASTER OF SCIENCE IN WILDLIFE HEALTH AND MANAGEMENT

1.0 INTRODUCTION

A number of trends and changes in the status of wildlife health research and management have developed in the last several years which necessitate a re-examination of the national and regional needs for post graduate wildlife health training. First, there has been an escalation in the conflict between wildlife species and human activities as urban/agricultural areas expand. This conflict has resulted in injury and loss of life in both human and wildlife populations. Because of this, in past years Kenya has had to spend time and expense on travel and dealing with problem animals.

Second, the agriculture and urban expansion has caused stocks of wildlife to decline. This expansion impacts wildlife populations by physical occupation of habitats, killing of game and also by the introduction of xenobiotic infectious agents and pollutants into habitats.

Third, there is an impending veterinary policy change that may allow some degree of consumptive utilization of wildlife resources. While this should have the desired effect of raising the value of wildlife in the eyes of rural and urban Kenyans, the breeding and sustainable commercial exploitation of these species will depend on research concerning the minimum habitat requirements to replenish healthy populations of wild game in the face of alternative consumptive and non-consumptive uses and increasing land base competition.

Fourth, the Wildlife Disease Research Project, a unit of the Kenya Agricultural Research Institute whose main goal was to conduct research on endemic and introduced wildlife diseases, is being phased out after 27 years of operation. The expertise developed within the project is in danger of being dispersed and lost if no central focus for wildlife health research is developed.

Fifth, wildlife, through non-consumptive and consumptive uses is a major contributor to foreign exchange earnings of East African countries. Despite its critical role there is no post graduate training in wildlife health and disease management in Kenya.

With the foregoing in mind, the Department of Clinical Studies, Faculty of Veterinary Medicine, University of Nairobi has developed a post graduate program in wildlife health and management. The objectives of the program are:-

i) To produce personnel capable of undertaking research and management in wildlife health issues at the academic, government, regulatory/policy, or commercial level.

ii) To develop a core of faculty and collaborators active in wildlife health research

iii) To provide practical training for those interested in medicine, surgery and disease surveillance of wildlife species.

2.0 ENTRY REQUIREMENTS

2.1 Common regulations for the masters degree programs in all faculties shall apply.

2.2 The following shall be eligible for admission:

a) Holders of Bachelor of Veterinary medicine degree of the University of Nairobi or other institutions recognized by Senate.

b) Holders of Bachelor of Science (Zoology) or Bachelor of Science (Biology) degree at upper second class honours or lower second class honours with at least two years relevant experience from the University of Nairobi or other institution recognized by senate.

c) Holders of Postgraduate Diploma in wildlife Health and Management of the University of Nairobi or other institution recognized by Senate.

d) First degree at upper second class honours or lower second class honours with at least two years relevant experience in any discipline related to animal health from the University of Nairobi or other institution recognized by senate.

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Chairman of Department
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Muraya, J. BVM, MSc, (Nairobi)
Mwangi, E.W., BVM, MVet Surg., (Nairobi)
Wambua, D., BVM, (Nairobi)
Mathai, L.W., BVM, (Nairobi)
Chief Technologist
Onsongo, j., BSc.M L S (Mt. Kenya), H D (Medical Laboratory Sciences)

DEPARTMENT OF VETERINARY ANATOMY AND PHYSIOLOGY

MASTER OF SCIENCE IN COMPARATIVE ANIMAL PHYSIOLOGY

1.0 INTRODUCTION:

The Master of Science degree in comparative animal physiology offered in the Department of Veterinary Anatomy and Physiology is intended to train professionals in comparative fields of vertebrate physiology. The study is also intended to provide an in-depth knowledge of specific options in physiology in order to prepare course recipients for academic work in Diploma Colleges, Universities and research institutions. Recipients of the degree should be able to initiate research projects in their field of specialization as well as carry out comparative and collaborative research with minimal supervision in physiological sciences and other related fields of study.

2.0 COURSE OBJECTIVES

2.1 Offer a comprehensive coverage in comparative physiology of vertebrates.

2.2. Provide an in-depth study through specific options in order to prepare course recipients for academic work in research and in institutions of higher learning.

2.3. Equip professionals working in biomedical sciences with cutting edge knowledge in physiology that will improve their working skills.

3.0 ENTRY REQUIREMENTS

3.1 The common regulations for the Masters Degrees in all faculties shall apply.

3.2 The regulations for the Degree of Master of Science by course work and thesis in the Faculty of Veterinary Medicine shall be applicable:

3.3 The following shall be eligible for registration for the degree of Master of Science in Animal Physiology:

3.3.1 Holders of BVM or MBChB degrees of the University of Nairobi, or equivalent degrees from any other institution recognized by the senate.

3.3.2 Holders of BSc. (Biomedical Technology, Zoology, Biology, Animal Physiology or Anatomy, Wildlife Management and related options) of the University of Nairobi or a recognized University with at least upper second-class honors or lower second-class honors with a minimum of 1 year work experience in a relevant field.

3.3.3 A candidate who has obtained a Bachelor's degree or an equivalent qualification in zoological sciences in a relevant discipline from other institutions recognized by the senate of the University of Nairobi as a comparable academic status.

MASTER OF SCIENCE IN VETERINARY ANATOMY AND CELL BIOLOGY

1.0 INTRODUCTION

The Master of Science degree course in Anatomy and Cell Biology offered in the Department of Veterinary Anatomy and Physiology is intended to train graduates for professional teaching and research in areas of basic medical sciences and especially comparative vertebrate anatomy. Graduates with the MSc degree should also be able to relate structures to function in various vertebrate types in a comparative manner and should be able to carry out research in areas related to comparative aspects of vertebrate anatomical sciences. The course also emphasizes the importance of appreciating the three dimensional profile of body structures in situ to the students.

2.0 COURSE OBJECTIVES:

2.1 Train graduates at postgraduate level in Anatomy and Cell Biology that can offer support services to other related biological sciences.

2.2 Produce highly skilled personnel to undertake cutting edge research in Anatomy and Cell Biology

2.3 Equip professionals working in biomedical sciences with current knowledge in Anatomy and Cell Biology that will improve their working skills.

3.0 ENTRY REQUIREMENTS

3.1 The common regulations for the Master's Degrees in all faculties shall apply.

3.2 The regulations for the Degree of Master of Science by course work and thesis in the Faculty of Veterinary Medicine shall apply.

3.3 The following shall be eligible for registration for the degree of Master of Science in Anatomy and Cell Biology:

3.3.1 Holders of BVM or MBChB degrees or equivalent degrees from any institution recognized by the senate of the University of Nairobi.

3.3.2 Holders of BSc. (Zoology, Biology, Animal Physiology or Anatomy) of the University of Nairobi or a recognized University with at least upper second-class honors or lower second class honors with a minimum of 2 years work experience in a relevant field.

MASTER OF SCIENCE IN REPRODUCTIVE BIOLOGY

1.0 ENTRY REQUIREMENT

Those eligible for registration will be holders of the following degree awards of the University of Nairobi:

i) Bachelor of Science degree with a minimum of an Upper Second Class Honours in Biochemistry, Zoology, Physiology, Biology or Anatomy.

ii) Bachelor of Veterinary Medicine with at least a credit pass in one of the relevant subjects.

iii) Bachelor of Medicine/Bachelor of Surgery or Bachelor of Pharmacy with at least a credit pass in one of the relevant subjects; or a degree from another recognized university which has been accepted by Senate as equivalent to one of the degrees above. The common regulations for the Masters' degrees in all Faculties shall be applicable.

DOCTOR OF PHILOSOPHY (PhD) IN THE FACULTY OF VETERINARY MEDICINE

INTRODUCTION:

This programme will be a follow up of the Master's degree course except as otherwise provided. Students will be required to put more emphasis on areas of thesis research.

Regulations:

The common regulations for the Doctor of Philosophy degree in all faculties shall be applicable.

ENTRY INTO THE PROGRAMME:

i) Holders of Master of Science degree in Veterinary Medicine of the University of Nairobi.

ii) Holders of a Master of Science degree in Veterinary Medicine from other Universities which has been approved by the Senate to be equivalent to Master of Science in Veterinary Medicine, University of Nairobi.

iii) Holders of a Bachelor's degree in Veterinary Medicine or equivalent who, having been validly registered for Masters degree in the University of Nairobi, have been allowed by Senate to have their Masters degree upgraded to a Doctoral level in the prescribed manner.

iv) Candidates will be required to draw and submit a detailed Doctoral research proposal in the prescribed manner at the time of applying for admission.

STAFF LIST
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Details on specific admission requirements of the school, credit transfer and exemptions, course structure and duration, examination regulations, course outline and award of degree may be obtained from the Faculty

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WANGARI MAATHAI INSTITUTE FOR PEACE AND ENVIRONMENTAL STUDIES

Director: Prof. David N. Mungai, BA, MA, PhD, (Nairobi)
Deputy Director: Nzioka J. Muthama, BSc, MSc, (Nairobi), PhD, (Rome 'La Sapienza', Italy)

1.0 INTRODUCTION

The Wangari Maathai Institute for peace and Environmental studies (WMI), **"Green Campus",** was established to honor, recognize, celebrate, advance, and immortalize the ideals and works of one of its alumni, the 2004 Peace Nobel Laureate Prof. Wangari Muta Maathai. Thus, the institute will promote good environmental practices and cultivate cultures of peace by shaping values, ethics and attitudes of its graduates through experiential learning, mentoring and transformational leadership. The overall aim of the institute is to cultivate better environmental stewardship and management of resources and ultimately a reduction in related conflicts. WMI will operate like a "finishing school" for university students, researchers, policy makers, the private sector, community leaders and groups interested in good practices in environmental management and peace building.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN ENVIRONMENTAL GOVERNANCE

1.0 INTRODUCTION

The world is characterized by skewed trade in natural resources, deforestation, geo-political struggles over oil and gas supplies, desertification and increasing environment related diseases among other issues. This raises important questions about how humans currently - and in future should organize the governance of natural resources and environments upon which they depend. Transformative leaders and change agents with a multidisciplinary practical knowledge on resource economy, policy, legal pluralism, global business, eco-health, community mobilization skills and integrated natural resources management are required to assist communities in sustainable utilization of resources as well as develop policy and generate research data that would guide integrated environmental management. In response to the needed human capacity in this area, the institute has developed a multidisciplinary and experiential learning program in environmental governance studies.

Traditional education often produces learners who find it difficult to link the knowledge they have gained with the realities they face, thereby limiting their immediate relevance to the working world. One of the practical elements of the programme is emphasis on experiential learning which will involve working with institutions in regulatory matters related to environmental governance. Again, the principal components of the program focus on holistic nature of environment training and integration of environment, livelihoods, peace and sustainability. Further, the graduates will offer authoritative transformative leadership in environmental issues in society, do research and teach at universities.

2.0 COURSE OBJECTIVES

i) Produce holistic graduates with competence that links environment, livelihood and peace.

ii) Produce high-quality graduates, capable of conducting high quality research in the interdisciplinary field of environment and peace.

iii) Build capacity for empowering communities to influence leaders and policy for integrated and sustainable environmental management.

iv) Develop a cadre of specialists in environment governance and peace cultures for balancing public and private interests and mitigation of natural resource-based conflicts.

3. 0 ENTRY REQUIREMENTS

The common regulations governing Master of Science degrees in the University of Nairobi shall apply. In addition, the applicant with the following minimum qualification shall be admissible:

3.1 Holder of Bachelor's degree of the University of Nairobi or an institution recognized by Senate with at least Upper Second Class Honours or equivalent.

3.2 Holder of bachelor's degree with at least Lower Second Class Honours or equivalent of the University of Nairobi or an institution recognized by Senate with at least two years of relevant experience in environment related field

3.3 Holder of bachelor's degree pass or equivalent of the University of Nairobi or an institution recognized by Senate plus postgraduate diploma or at least five years work experience in environment related field

REGULATIONS AND SYLLABUS FOR THE DOCTOR OF PHILOSOPHY IN ENVIRONMENTAL GOVERNANCE AND MANAGEMENT

1. INTRODUCTION

In a world fractured by the effects of environmental degradation, political turmoil, economic crises and chronic famine it is self-evident that cultures of peace depend on good governance and equitable access, utilization and distribution of natural resources. Transformative leaders and change agents with a multidisciplinary practical knowledge on resource economy, policy, legal pluralism, community mobilization skills and appropriate participatory approaches are required to assist communities in sustainable utilization of resources as well as develop policy and generate research data that would guide integrated environmental management. In response to needed human capacity in this area, the institute has developed a multidisciplinary and experiential learning program in peace and environmental studies.

Traditional education often produces learners who find it difficult to link the knowledge they have gained with the realities they face, thereby limiting their immediate relevance to the working world. In contrast, experiential learning emphasizes engaging in critical thinking and taking the classroom and book learning to encounter the real world in all its complexity. It enables students to be more action-ready with their knowledge, able to engage directly with real world problem solving. Issues pertaining to the nexus of environment, governance and peace are by definition intricate, unyielding to simplified thought or courses of action. This course will therefore design experiences which allow students to interact with real life situations – including working in communities – and require them to give well-thought out input into them. Reflection arising from these experiences will result in the kind of depth that characterizes true agents of change.

The program has assembled interdisciplinary approaches to development, legal pluralism and its consequences on environmental and conflict management and integrative governance approaches. The principal components of the program focus on holistic nature of environment training and integration of environment, livelihoods, peace and sustainability. The graduates from the program will represent a critical mass of future potential key researchers, all trained in interdisciplinary research, while still representing different scientific traditions and backgrounds and forming an inspiring and cross-pollinating research circle. The researchers will address natural resource conflicts and offer solutions for peace building. Further, the graduate will offer authoritative transformative leadership in environmental issues, do research and teach at universities.

2.0 COURSE OBJECTIVES

1. Provide an integrated training that will equip the learners with skills to offer transformative leadership in environment and peace at all levels of society

2. Produce high-quality PhD graduates, capable of conducting high quality research in the interdisciplinary field of environment and peace.

3. Build capacity for empowering communities to influence leaders and policy for integrated and sustainable environmental management.

4. Produce holistic graduates with competence that links environment, livelihood and peace.

5. Develop a cadre of high level specialists in environment and peace cultures for balancing public and private interests for mitigation of natural resource-based conflicts.

3. 0 ENTRY REQUIREMENTS

3.1 The common regulations for the PhD degrees in all faculties shall apply.

3.2 Holders of a Master of Science degree in environmental sciences, biological sciences, peace related disciplines or an equivalent qualification from an institution recognized by senate.

3.3 Holders of Masters Degree in relevant social sciences recommended by the Institute board and approved by senate.

3.4 Other equivalent qualifications acceptable to the University of Nairobi senate as equivalent to the Masters degrees in relevant fields

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Details on specific admission requirements of the school, credit transfer and exemptions, course structure and duration, examination regulations, course outline and award of degree may be obtained from the Institute.

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