



**MINISTRY OF HIGHER EDUCATION
HIGHER EDUCATION AUTHORITY**

The Higher Education Act No. 4 of 2013
**APPLICATION FOR ACCREDITATION OF HIGHER EDUCATION LEARNING
PROGRAMMES IN ALL PUBLIC AND PRIVATE HIGHER EDUCATION
INSTITUTIONS**

(Part IV, Section 20 (h), Statutory Instrument No. 25 of 2016)

TEMPLATE

A. INSTRUCTIONS

A Higher Education institution applying for Accreditation of Higher Education Learning Programmes should send this Application Form to:

The Director General
Higher Education Authority
P.O. Box 50795
Ridgeway
Dedan Kimathi Road
Mukuba Pension House
LUSAKA

Each application must be accompanied by proof of payment of the fees for Accreditation of a Learning Programme of **K5,000 per programme**.

B. ADMINISTRATIVE DATA

Name of Higher Education Institution	
Contact details for the Higher Education Institution Physical Address	
Postal Address	
Telephone Numbers	
Fax Number	
E-mail Address	
Contact Person	
Designation of Contact Person	

C. CRITERIA FOR ACCREDITATION OF HIGHER EDUCATION LEARNING PROGRAMMES

C1. Introduction

Applicants for Accreditation of Higher Education Learning Programmes under the Higher Education Act No. 4 of 2013 are required, under Part IV, Section 20(h) and Statutory Instrument No. 25 of 2016, to provide information on the Learning Programmes which the Higher Education Institution wishes to offer. This information will relate, **but not limited**, to the following:

1. Aims and Objectives
2. Curriculum
3. Assessment
4. Staff
5. Facilities for Programme Delivery
6. Teaching and Learning Support
7. Internal Quality Assurance
8. Financial Resources
9. Delivery and learning methods
10. Acceptability
11. Relevance
12. Regulations

C2. Details of Higher Education Learning Programmes

Programme Reference Number	
Name of Learning Programme	e.g. BACHELOR OF ECONOMICS

C2.1 Programme Aims and Objectives

C2.1.1 Introduction

C2.1.2 Rationale

C2.1.3 Aims of the programme

C2.1.4 Objectives of the programme

C2.2 Curriculum

C2.2.1 Programme Learning Outcomes

The key learning outcomes of this programme are, e.g.:

- (b) BSc students trained in Animal Science
- (c) Professionals with skills in Animal Science
- (d) Publication of research findings

C2.2.2 Level of Qualification and Articulation in the Zambia Qualifications Framework

ZQF level: 7

EXAMPLE:

At this level, it is expected that the graduate shall:

- (a) Have knowledge and critical understanding of well-established principles of and emerging issues in economics, and of the way in which those principles have developed.
- (b) Develop the ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of these principles in varied contexts.
- (c) Possess systematic, extensive and comparative knowledge and understanding of economics as a whole and its links to related subject(s).
- (d) Have knowledge of the main areas of enquiry in economics and ability to critically evaluate the appropriateness of different approaches to solving problems.
- (e) Understand the limits of their knowledge, and how this influences analyses and interpretations based on that knowledge.
- (f) Apply a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems in the field of economics.
- (g) Effectively communicate information, arguments, and analysis, in a variety of forms, to various audiences.
- (h) Present information and transfer knowledge, skills and values to others through delegation and practice.
- (i) Acquire skills needed to study further with a high level of autonomy.
- (j) Systematically establish and address personal learning needs.
- (k) Develop existing skills and acquire new competencies to enable assumption of significant responsibility within organizations.
- (l) Exercise personal responsibility, initiative and decision-making in complex and unpredictable contexts.
- (m) Autonomy, well developed judgment, adaptability and responsibility as a practitioner or learner.
- (n) Demonstrate some originality and creativity in formulating, evaluating and applying evidence-based solutions and arguments within the field of economics.

C2.2.3 Teaching and Learning Plan

Table 1. Example of Teaching and Learning Plan
(a) Year 1

COURSE CODE	COURSE TITLE	CONTACT HOURS												CREDIT POINTS	
		Lectures		Tutorials		Laboratory		Seminars		Field Work		Assessments and Self Study			Total Hours
		Hrs/Wk	No. of Wks	Hrs/Wk	No. of Wks	Hrs/Wk	No. of Wks	Hrs/Wk	No. of Wks	Hrs/Wk	No. of Wks	Hrs/Wk	No. of Wks		
BIO 1401	Cells and Biomolecules	3	14	1	14	2.5	14							91	3.03
BIO 1412	Molecular Biology and Genetics	3	14	1	14	2.5	14							91	3.03
CHEE 1000	Introductory Chemistry	3	28	1	28	2.5	28							182	6.07
MAT 1100	Foundation Mathematics	3	28	1	28	1	28							140	4.67
PHY 1010	Introductory Physics	3	28	1	28	2.5	28							182	6.07
	TOTAL													686	22.87

C2.3 Assessment

C2.4 Staff

C2.4.1 Staff qualification

C2.4.2 Staff development programme

C2.4.3 Staff workloads

C2.4.4 Programme Coordinator:.....

Table 2: Staff

(a) Academic Staff

Title	Surname	Other names	Gender	Highest Qualification	Teaching experience in higher education (Yrs)	Professional and work-place experience (Yrs)	Rank	Fulltime (FT) Part-time (PT) Honorary (H) Temporary (T)
Dr.	Chifwepa	Michael	M	PhD	More than 25	More than 25	Senior Lecturer	FT
Mr	Walubita	James	M	MSc	More than 15	More than 15	Lecturer	FT

(a) Support and Technical staff

Title	Surname	Other names	Gender	Highest Qualification	Teaching experience in higher education (Yrs)	Professional and work-place experience (Yrs)	Rank	Fulltime (FT) Part-time (PT) Honorary (H) Temporary (T)
Mr	Banda	Charles	M	MSc		10	Chief Scientist	FT
Mrs	Mulenga	Abigail	F	B. Agr. Sc		5	Senior Scientist	FT

C2.5 Facilities for Programme Delivery (Facilities provided and available for teaching, learning and research)

C2.6 Teaching and Learning Support (Facilities, Equipment and networks available to support teaching and learning)

C2.7 Internal Quality Assurance (Details of internal policy, strategies and institutional arrangements for internal quality assurance)

C2.8 Financial Resources (Resources available and adequacy of financial resources to support the learning programme)

C3. OTHER INFORMATION

C3.1 Delivery and learning methods

C3.2 Acceptability

C3.2.1 Stakeholders are identified, including relevant academic, industrial, professional and other communities

C3.2.2 The actual or likely interests of these stakeholders in respect of the proposed qualifications are clearly identified

C3.3 Relevance

C3.3.1 Assesses the importance and applicability of the qualification to the workforce and other stakeholder needs

C3.4 Regulations

C3.4.1 Undergraduate Entrance Requirements, Curricula and Degree Regulations

C3.4.2 Examinations

C3.4.3 Progression

C3.4.4 Degree Regulations

C3.4.5 Degree Classification

D. DECLARATION

I, confirm that the information I have given in the Application Form is true.

Signature:.....

Designation:.....

Date:.....

WITNESS

Name:.....

Signature:.....

Designation:.....

Date:.....

APPENDIX 1

Course Descriptions

E. Course Descriptions (Example)

Year 1 – 22.87 Units

Term	Subject Area	Course Code	Course Description	Units
Semester 1	Biology	BIO1401	Cells and Biomolecules	3.03
	Biology	BIO1412	Molecular Biology and Genetics	3.03
Semester 2	Chemistry	CHE1000	Introductory Chemistry	6.07
	Mathematics	MAT1100	Foundation Mathematics	4.67
	Physics	PHY1010	Introductory Physics	6.07
Total				22.87

E1.0 Description of First Year Courses

E1.1 BIO1401: Cells and Biomolecules

E1.1.1 Background and Rationale

E1.1.2 Learning outcomes

E1.1.3 Course content

E1.1.4 Assessment

E1.1.5 Prescribed Textbooks

E1.1.6 Recommended Textbooks

**THE ABOVE TO BE DONE FOR ALL COURSES IN FIRST YEAR COURSES –
SEE EXAMPLE IN SECOND YEAR COURSE BELOW**

Year 2 – 33.36 Units

Term	Subject Area	Course Code	Course Description	Units
Semester 1	Anatomy and Physiology	AGA 2110	Anatomy and Physiology of Farm Animals	6.07
	Plant Science	AGC 2110	Fundamentals of Plant Science	6.07
	Economics	AGE 2111	Fundamental of microeconomics	3.03
Semester 2	Economics	AGE 2122	Fundamentals of macro-economics	3.03
		AGG 2003	Field Attachment	3.03
	Soil Science	AGS 2110	Fundamentals of Soil Science	6.07
	Chemistry	CHE 2001	Agricultural and Veterinary Chemistry	3.03
	Bio-Chemistry	CHE 2102	Introductory Biochemistry	3.03
Total				33.36

E2.0 Description of Second Year Courses

E2.1 AGA 2110: Anatomy and Physiology of Farm Animals

E2.1.1 Background and Rationale

The aims of the course are to give the student an understanding of the macroscopic and microscopic structures of farm animals in order to appreciate the functions of the different parts of the body.

E2.1.2 Learning outcomes

At the end of the course students will be expected to:

- (a) Define anatomical terms Identify gross anatomical parts of farm animals
- (b) Differentiate the micro anatomy of the various parts of an animal
- (c) Relate the different anatomical parts to the functions they perform

E2.1.3 Course content

1.0 Introduction to Anatomy

- Introduction to different livestock species
- Definition of macroscopic and microscopic anatomy
- Descriptive terms useful in the study of anatomy

2.0 Review of the Structure of the Cell

- The cell membrane
- The cytoplasm and organelles
- The nucleus

3.0 Tissues of the body

- Epithelium
- Connective tissue
- Muscular tissue
- Nervous tissue

4.0 The Skeletal System

- Structure of the bone: Micro and macro anatomy of the bone
- Classification of bones
- Functions of bones
- Divisions of the skeleton: Axial skeleton & Appendicular skeleton

5.0 The Muscular System

- Microanatomy of muscle
- Types of muscle: voluntary striated (skeletal) muscle; involuntary striated (cardiac) muscle; involuntary unstriated (smooth) muscle
- Muscle attachments
- Functional grouping of muscles

6.0 The Nervous System

- Structure of the neuron
- Classification of neurons
- Organization of the nervous system
- Anatomy of the Central Nervous System: brain, spinal cord
- Anatomy of the Peripheral Nervous System: spinal nerves, cranial nerves, autonomic nervous system

7.0 The Endocrine System

- Organization of the endocrine system
- The endocrine glands: Pituitary gland, thyroid gland, parathyroid gland, pancreas, adrenal glands, gonads.

8.0 The Digestive System Pharynx and oesophagus

- Stomach: non-ruminant animals
- Stomach: ruminant animals
- Small and large intestines
- Accessory digestive organs: pancreas, liver
- Digestive system of the fowl

9.0 The Cardiovascular System

- General organization
- The heart structure
- Blood vessels: arteries, capillaries, veins, lymphatics
- Pulmonary circulation,
- Systemic circulation
- Portal circulation
- Lymphatic system

10.0 The Respiratory System

- Respiratory tract: nostrils, nasal cavity, pharynx, larynx, trachea, bronchi, bronchioles, alveolar ducts, alveoli, alveolar sacs
- Lungs, pleura
- Mechanics of respiration

11.0 The Urinary System

- Kidneys, ureters, bladder and urethra
- Microanatomy of the nephron

12.0 The Mammary Gland

- Terminologies used in mammary anatomy
- Structure of the cow's mammary gland
- Blood supply to the mammary gland
- Udder innervations
- Microanatomy of the mammary gland
- Mammary glands of other farm livestock species

13.0 The Reproductive System

- Female reproductive system: ovaries, uterine tubes (oviducts or fallopian tubes), uterine horns, uterus, vagina, vulva
- Male reproductive system: scrotum, testis, epididymis, ductus deferens, spermatic cord, accessory sex glands, penis
- Fowl reproductive system and egg structure

14.0 The Skin and Associated Structures

- Epidermis, Dermis and Hypodermis
- Colour of the Skin
- Hair and Coat Colour
- Sebaceous and Sudoriferous Glands
- The hoof of farm animals

E2.1.4 Assessment

- Continuous Assessment 30%
- Practical Examination 20%
- Final Exams 50%

E2.1.5 Prescribed Textbook

1. Frandson, R. D. and Purgeon T. L. 2009. **Anatomy and Physiology of Farm Animals**, 7th Edition; John Wiley and Sons / Lea Febiger; ISBN: 0813813948, 9780813813943.

E2.1.6 Recommended Textbooks

1. Garret, P. D. 1988. **Guide to Ruminant Anatomy based on Dissection of the Goat**. Iowa State University Press. ISBN: 0608079200, 9780608070202.
2. Heath E. and S. Olusanya. 1985. **Anatomy and Physiology of Tropical Livestock – Intermediate Tropical Agriculture Series**. Longman, London and New York. ISBN: 0582775191, 9780582775190

THE ABOVE TO BE DONE FOR ALL COURSES IN SECOND YEAR

E3. THIRD YEAR COURSES

EXAMPLE:

E3.2 AGA 3212 Applied Animal Nutrition

E3.2.1 Background

To provide students with knowledge and skills in advanced animal nutrition.

E3.2.2 Rationale

This course aims at enhancing student understanding of the science and practice of feeding farm livestock and poultry to achieve optimal productivity

E3.2.3 Learning Outcomes

At the end of the course students will be expected to;

- (a) Demonstrate knowledge of nutritional quality aspects of various dietary ingredients.
- (b) Demonstrate understanding of differences in dietary ingredient and nutrient requirements in different species and classes of livestock and poultry.
- (c) Identify the most appropriate nutrient requirement values for different situations.
- (d) Formulate economical and nutritionally balanced rations.
- (e) Demonstrate understanding of the status and operating environment of the stock-feed industry. Demonstrate knowledge of different systems to meet the nutrient requirements of farm animals.
- (f) Apply techniques of nutritional manipulation for optimum animal productivity

E3.2.4 Course Content

1.0 Ruminant Nutrition

- Manipulation of the rumen environment
- Nutrition techniques using metabolic trials: markers and fistulae
- Methods of increasing the digestibility of feeds
- Ration formulation for ruminants

2.0 Non-ruminant Nutrition

- Water requirements
- Effects of environment on food intake and utilization
- Blending
- Feeding techniques for optimum production
- Ration formulation for non-ruminants

3.0 The Metabolisable Energy (ME) System in Ruminants

- Evidence of energy balance regulation
- Prediction of voluntary feed intake: Equations
- The metabolisable energy system: measurement
- The ME system for dairy cows: calculation, feeding the dairy cow
- The ME system for growing and fattening cattle
- Protein allowances
- Water requirement
- Mineral requirements
- Vitamin requirements

4.0 The Metabolisable Energy (ME) Systems in Non-ruminants

- Evidence of energy balance regulation
- Prediction of voluntary feed intake: Equations
- The metabolisable energy system: measurement
- The ME system for pigs feed calculation
- The ME system for pigs feed calculation
- Protein allowances
- Mineral requirements
- Vitamin requirements

5.0 Advances in animal nutrition

- National
- International

E3.2.5 Assessment

- Continuous Assessment 40%
- Final Exam 60%

E3.2.6 Prescribed textbooks

1. McDonalds P, Edwards R. A and J. F. D. Greenhalgh. 1996. **Animal Nutrition**, 5th Edition. Longmans, UK. ISBN: 0582443997, 9780582443990.
2. Church, D. C. 1983. **Digestive Physiology and Nutrition of Ruminants**, Volume 1 – 4. O and B Books Inc. USA. ISBN: 0960158650, 9780960158652

E3.2.7 Recommended Text

3. ARC. 1980. **Nutrient requirements of Ruminant Livestock**. Commonwealth Agricultural Research Bureaux. ISBN: 0851984592, 9780851984599.
4. Chesworth J. 1992. **Ruminant Nutrition**. CTA and Macmillan, The Netherlands. ISBN: 0 – 333 – 570730 – 1. 0
5. Cullison A. E. 1978. **Feeds and Feeding**. Reston Publishing Company, Inc. USA. ISBN: 0879092661, 9780879092665.
6. Little T. M. and F. J. Hills. 198. **Agricultural Experimentation Design and Analysis**. John Wiley and Sons, USA. ISBN: 0471023523, 9780471023524.
7. Orskov B.1987. **The feeding of Ruminants – Principles and Practice**. Chalcombe Publications, Aberdeen, UK. ISBN: 0948617 – 09 – 8.
8. Van Soest, P. J. 1994. **Nutritional Ecology of the Ruminant**. CornellUniversity Press/O and B Books, Inc., USA. ISBN: 080142772X, 9780801427725

APPENDIX 2

Teaching Staff Curricula Vitae

Example List of Courses Taught by the School of Civil, Environmental and Mining Engineering and their Course Coordinators

YEAR 1		Course Coordinator
C&ENVENG 1010	Engineering Mechanics	Dr. Statics C. Willis
C&ENVENG 1008	Engineering Planning & Design 1	A D. Walker
C&ENVENG 1009	Civil & Environmental Eng 1	A/P M. Muya
C&ENVENG 1012	Engineering Modelling and Analysis	I A N. Arbon
MINING 1011	Introduction to Mining Engineering 1	A/P E. Chanda

YEAR 2		Course Coordinator
C&ENVENG 2025	Strength of Materials II	Prof. S. Simukanga
C&ENVENG 2067	Construction Management and Surveying	A/P M. Muya
C&ENVENG 2068	Environmental Engineering & Sustainability II	A/P H. Maier, T. Rowan
C&ENVENG 2069	Geotechnical Engineering II	Dr. M. Chileshe, M. Jaksa
C&ENVENG 2070	Engineering Modelling and Analysis II	Dr. A N. Melkounian
C&ENVENG 2071	Water Engineering II	A N. Arbon
C&ENVENG 2072	Structural Engineering Design	Dr. M. Ali

THE ABOVE TO BE DONE FOR ALL COURSES OFFERED IN A PROGRAMME

CVs of staff involved in the Programme

NAME: TOGAY OZBAKKALOGLU

SCHOOL: School of Civil, Environmental and Mining Engineering
CURRENT POSITION: Senior Lecturer

COURSES TAUGHT

- Prestressed Concrete Structures (Postgraduate level)
- Advanced Reinforced Concrete (4th year and Postgraduate level)
- Design of Concrete Structures (4th year)
- Structural Mechanics (3rd year)
- Structural Design II (2nd year)

ACADEMIC QUALIFICATIONS

- University of Ottawa, Ottawa, ON, Canada
Department of Civil Engineering
Ph.D. in Civil Engineering, December 2005
Thesis: "Seismic Performance of High-Strength Concrete Columns in FRP Stay-in-Place Formwork"
Istanbul Technical University, Istanbul, Turkey
- University of Ottawa, Ottawa, ON, Canada
Department of Civil Engineering
B.Sc. in Civil Engineering, June 1998

PROFESSIONAL MEMBERSHIP

- Member, American Concrete Institute (ACI)
- Associate Member, ACI Committee 374, Performance-Based Seismic Design of Concrete Buildings
- Associate Member, ACI Committee 440, Fiber Reinforced Polymer Reinforcement
- Associate Member, ACI-ASCE Joint Committee 441, Reinforced Concrete Columns
- Member, International Institute for FRP in Construction (IIFC)
- Member, Concrete Institute of Australia (CIA)
- Member, Canadian Association for Earthquake Engineering (CAEE)
- Former Student Chair, Ottawa Carleton Earthquake Engineering Research Centre (OCEERC)

ACADEMIC EMPLOYMENT HISTORY (including Honorary and Adjunct Positions)

- 2006-present Lecturer (Level B), School of Civil and Environmental Engineering, University of Adelaide, Adelaide, South Australia
- 2004-2006 Lecturer (Sessional), Department of Civil Engineering, University of Ottawa, Ottawa, Canada

PROFESSIONAL EMPLOYMENT, EXPERIENCE AND CONSULTANCY HISTORY

RESEARCH INTERESTS

- Behaviour, design, and retrofit of earthquake-resistant concrete structures
- Behaviour and design of FRP reinforced concrete structural members
- Confinement of normal- and high-strength concrete columns by FRP composites
- Use of concrete-filled FRP tubes as earthquake-resistant columns for new construction
- Repair and strengthening of concrete and masonry structures with advanced composite materials
- Behaviour and design of high-strength concrete members
- Use of fibre optic sensors for structural health monitoring
- Inelastic dynamic analysis of reinforced concrete structures for seismic investigation
- Blast resistant design of reinforced concrete structures

PUBLICATIONS (last 5 years)

Books	Book Chapters	Journal papers (refereed)	Conference papers (Refereed)
0	0	8	8

END