

ii] COLLEGE OF ARCHITECTURE AND ENGINEERING

Principal: Prof. P.M. Ngau, BEd (KU), MA, (Nairobi), PhD, (UCLA)
College Registrar/Secretary: Mr. Kachero, F.W., BEd, MBA, (Nairobi), MIHRMS(K)
College Bursar: Mr. Samuel N. Ngigi, "A" Level, CPA (K)

INTRODUCTION

The College of Architecture and Engineering is one of the six colleges of the University of Nairobi. The administrative offices of the College, which include the Principal's Office, the Office of the College Registrar/Secretary and the College Bursar are located on the 2nd floor of the Administration Block, Main Campus.

The College comprises three schools and one institute:

- i) School of The Arts and Design,
- ii) The School of The Built Environment,
- iii) The School of Engineering
- iv) The Institute of Nuclear Science and Technology.

There are also two Consultancy Units; the Industrial Research and Consultancy Unit in the School of Engineering and a Projects Office in the School of The Built Environment.



SCHOOL OF THE ARTS AND DESIGN

Director of The School: Dr. L.A. Osanjo, BA Design, (Nairobi), MSc, (JKUAT), PhD, (Nairobi)

A HISTORICAL BACKGROUND OF SCHOOL OF THE ARTS AND DESIGN

1.0 INTRODUCTION

The School of the Arts and Design has two undergraduate degree programmes namely Bachelor of Interior Design and Bachelor of Arts in Design. The 4-year Bachelor of Interior Design was developed in response to customer requests for a specialized degree that compliments the fast growing building industry in Kenya and the region. Through rigorous training, exposure and internship, the Bachelor of Interior degree graduates will fill a gap by ensuring interior spaces meet consumers' health, environmental and aesthetic needs.

In the 4-year Bachelor of Arts Degree in Design, the first two years are foundation years, while the last two years are specialization years: students select one area of specialization among Graphics, Product, Illustration, Interior and Fashion and Textiles. In the final year, students undertake an individual project that culminates in the annual exhibition. The exhibition has proven to be both informative and a marketing opportunity. Prospective students get to understand the expanse of knowledge in the various specializations; on the other hand, prospective employers come to the exhibition to identify the best employees.

Overall, the Design curricula develop graduates who are creative problem solvers and who have broad understanding of design research, theories and practices. The School maintains qualified staffs who are respected industry leaders. They ensure graduates are able to design innovative products, plans, systems and services with a sound understanding of the environment.

2.0 COURSE STRUCTURE

- i) BA Design is a 4year programme, 2 years foundation specializing in one of the five following areas, Product Design, Illustration Design, Interior Design, Graphic Design in the final two years.

- ii) BID is a 4 year programme, 2 years foundation and specialization in interior design in the final two years.
- iii) MA. Design programme is for the duration of 2 years, 1 year course work, and final year research project.
- iv) PhD. Design is a 3 year programme of Research into Design issues and Design for Development.

3.0 BACHELOR OF INTERIOR DESIGN DEGREE IN INTERIOR DESIGN

3.1 INTRODUCTION

The Bachelor of Interior Design degree program is a logical progression from the general degree programme, B.A. (Design) degree. The motivation for the new programme arose from among others;

- i) The need for a more holistic curriculum that considers and integrates new technological and digital developments for interior design and create employment opportunities in line with industrialization goals.
- ii) The need to respond to market demands and address social, cultural, economic and political changes that affect employment patterns and job definition for design graduates.

3.2 ENTRY REQUIREMENTS

Admission to Bachelor's in Interior Design degree programme will be based on the following minimum qualifications:

- i. KCSE mean grade C+ or equivalent and an overall mean grade of C+ in each of the 3 clusters below:
 - a) Mathematics/Business Studies
 - b) English/Swahili
 - c) Any Group II /any Group III/any Group IV/any Group V

KCSE Subject Cluster**Group 1**

- English
- Kiswahili
- Mathematics

Group II

- Biology
- Physics
- Chemistry

Group III

- History and Government
- Geography
- Christian Religious Education
- Islamic Religious Education
- Hindu Religious Education

Group IV

- Home Science
- Art and Design
- Agriculture
- Aviation Technology
- Computer Studies

Group V

- French
- German
- Arabic
- Music
- Business Studies

- ii) KCSE mean grade C- or equivalent plus a Certificate and Diploma in a relevant discipline from a recognized institution.
- iii) O Level Division III or equivalent plus a Certificate and Diploma in a relevant discipline from a recognized institution

- iv) KCSE mean grade C and a Diploma from University of Nairobi or other recognized institutions.
- v) A Level with two principal passes, IB or equivalent in relevant subjects.
- vi) Degree from a recognized University.

3.4 COURSE OUTLINE**FIRST YEAR****First Semester**

Course	Code	Hours
Communication Skills	CCS 001	45
History of Art and Design	BID 101	45
Design Theory	BID 103	45
Materials & Processes I	BID 105	45
Freehand Drawing I	BID 107	60
Instrumental Drawing I	BID 109	60
Two Dimensional Studies I	BID 111	60
Colour Theory & Practice	BID 113	60
		420

First Year Second Semester

HIV/AIDS	CCS 010	45
Fundamentals of Development and their Applic. in Kenya	CCS 002	45
African Art and Design	BID 102	45
Computer Studies	BID 104	60
Freehand Drawing II	BID 106	60
Print Techniques I	BID 108	60
Three Dimensional Studies I	BID 110	60
		375

SECOND YEAR**First Semester**

Social and Cultural Studies	BID 201	45
Elements of Economics	BID 203	45
Basic Statistics	BID 205	45

Materials & Processes II	BID 207	45
Advanced Freehand Drawing	BID 209	60
Advanced Instrumental Drawing	BID 211	60
Advanced 2 Dimensional Studies	BID 213	60
		360

Second Semester

History of Interior Design I	BID 200	45
Ergonomics	BID 202	45
Form & Content Appreciation	BID 204	45
Structures	BID 206	45
Computer Aided Design	BID 210	60
Model Making	BID 214	60
Advanced 3 Dimensional Studies	BID 216	60
		360

THIRD YEAR**First Semester**

History of Interior Design II	BID 301	45
Advanced Communication	BID 303	45
Cost Control and Planning	BID 305	45
Photography	BID 307	60
Exhibition and Display I	BID 329	60
Environmental Design I	BID 331	60
Landscape Design I	BID 335	60
		375

Third Year Second Semester

Design Management	BID 300	45
Marketing	BID 302	45
Design Research Methodology	BID 304	45
Entrepreneurship	BID 306	45
Interior Architecture I	BID 328	60
Furniture Design I	BID 330	60
Furnishing and Lighting I	BID 332	60
		360

Industrial Attachment	BID 334	90
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FOURTH YEAR

First Semester		
Design Research Project Proposal	BID 401	90
Design Professional Practice	BID 403	45
Exhibition and Display II	BID 407	45
Landscape Design II	BID 409	45
Interior Architecture II	BID 411	45
Furniture Design II	BID 413	45
		360

Second Semester

Final Project (Report and Portfolio)		
Design Research Project Report	BID 401	90
Exhibition and Display III	BID 420	90
Landscape Design III	BID 424	90
Interior Architecture III	BID 426	90
Furniture Design III	BID 428	90
		450

4.0 BACHELOR OF ARTS IN DESIGN**4.1 INTRODUCTION**

Design pedagogy and practice play a major role in enhancing innovation and improving economic growth. This is because design is focused on creative problem-solving across multidisciplinary contexts.

The main aim of the four-year Bachelor of Arts degree course in Design is to impart skills to foster development for the knowledge economy. This is in keeping with the National vision to make Kenya a prosperous, middle income economy, where citizens enjoy peace, freedom and stability.

OBJECTIVES

More specifically the objectives of the design course include:

- Promotion of interdisciplinary integration of artistic, scientific, socio-political, environmental and technological knowledge.
- Developing creativity in problem-solving processes in areas pertaining to human interaction and needs.
- Encouraging and promoting contextualized research to solve societal problems.
- Attainment of professional standards, skills and draftsmanship.

The first and second year of the B.A. in Design course is general and introductory in nature. In the third and fourth year of the course, learners are required to major in either two dimensional or three dimensional areas of design that include Graphics, Interior, Fashion and Textiles, Product and Illustration.

4.2 ENTRY REQUIREMENTS

- KCSE Candidates: The basic admission requirement shall be the minimum requirement set for entry into the Public Universities which is at least an average grade C+. In addition, a candidate must have at least a grade of C+ in Mathematics and in each cluster subjects.

Subject Cluster

- Mathematics/Business Studies
- English/Kiswahili,
- Any Group II /any Group III/any Group IV/ any Group V

KCSE Subject Cluster**Group 1**

- English
- Kiswahili
- Mathematics

Group II

- Biology
- Physics
- Chemistry

Group III

- History and Government
- Geography
- Christian Religious Education
- Islamic Religious Education
- Hindu Religious Education

Group IV

- Home Science
- Art and Design
- Agriculture
- Aviation Technology
- Computer Studies

Group V

- French
- German
- Arabic
- Music
- Business Studies

- ii) "A" Level Candidates (KACE) or equivalent.
- iii) Holders of 2 Principal passes one of which must be in Art/Design. If Art is not one of the 2 principal passes, candidates must have obtained CREDIT pass at 'O' Level or equivalent examination in Art/Design.
- iv) Diploma Candidates (KCE)
- v) A minimum of Division II or KCSE mean grade C and, least C Mathematics and in addition to a pass in KNEC Diploma in Art/Design or any other related field, or equivalent examination.
- vi) **Higher Diploma (HD):** Candidates with KNEC Higher Diploma or equivalent in related courses.
- vii) **Degree Holders:** Holders of University Degree from a recognized University in any field related to Art/Design.

5. MASTERS OF ARTS IN DESIGN

5.1 INTRODUCTION

From its inception in 1968 the Department of Design has been offering program leading to the Bachelor of Arts in Design (B.A. in Design). However, there is increasing demand in Kenya and challenges, which graduates of current B.A. in Design are unable to address with a sense of professional competence. The shortfall in meeting the challenges are attributable to the gaps which today's higher education programs, at diploma or undergraduate levels, have not been able to address and meet. The gaps can be abridged through the Master of Arts Degree in Design (M.A. in Design).

The M.A. Design emphasizes research to extend the boundary knowledge, to acquire professional skills and to address unmet needs. It strives to address local, national, regional and international challenges. It also lays emphasis on interdisciplinary collaboration, concerns for the disadvantaged and national development goals.

OBJECTIVES

The main objectives of the program are to:-

- i. Enable students to accurately translate cultural, social economic and intellectual concerns into successful concepts and designs;
- ii. Sharpen student's ability to assess design challenges which are experienced locally, nationally.

5.2 ENTRY REQUIREMENTS

Common Regulations, for Masters' degrees, of the University of Nairobi shall apply

Admission to the M.A. degree in Design is open to holders of Bachelor's degrees in:

- i) Design, of at least Upper Second Class Honours, of the University of Nairobi or an equivalent qualification recognized by Senate;
- ii) Any discipline related to Design, of at least Upper Second Class Honours from the University of Nairobi or other Universities recognized by the Senate;
- iii) Design or a discipline related to Design of at least Lower Second Class Honours with at least three years of professional experience and a certified portfolio.

5.0 COURSE OUTLINE (STUDIO COURSES ARE MARKED WITH A STAR)

LEVEL ONE (COMPULSORY)

Code	Title	Hours
BDS 501	Research Methodology	45
BDS 503	Design Management	45
BDS 505	History of Design	45
BDS 507	East African Design	90
BDS 509	*Computer Aided Design	90
BDS 511	*Design Materials & Process	90

5.2 LEVEL TWO (SPECIALIZATION)

Graphic Design		
BDS 502	* Advertising Design	90
BDS 504	* Packaging Design	90
BDS 506	*Corporate Identity Design	90
BDS 508	*Publication Design	90
Textile & Fashion Design		
BDS 510	*Printed Textile Design	90
BDS 512	*Woven Textiles Design	90
BDS 514	*Fashion Design	90
BDS 516	*Fabric Craft and Design	90
Interior Design		
BDS 518	*Principles of Landscape Design	90
BDS 520	*Interior Space Design	90
BDS 522	*Exhibition and Display Design	90
BDS 524	*Furnishing Design	90
Product Design		
BDS 526	*Jewellery Design	90
BDS 528	*Household Product Design	90
BDS 530	*Leisure Product Design	90
BDS 532	*Furniture Design	90

Design Appreciation	
BDS 534 West & North African Design	45
BDS 536 Central & South African Design	45
BDS 538 European-American Design	90
BDS 540 Oriental Design	90
BDS 542 Design Practice	90
5.3 LEVEL THREE (COMPULSORY)	
BDS 601 Contemporary Design Issues	90
Level Three (Specialization)	
BDS 603 *Design Project 1 (Project proposals leading to Graphic, Textile and Fashion, Interior or Product Design)	90
BDS 605 *Design Project II (Research proposals leading to research and Dissertation in one field of Design)	90
5.4 LEVEL FOUR (SPECIALIZATION)	
BDS 602 *Design Project II (Studio or Practical in Graphic, Textiles & Fashion, Interior or Product Design)	90
BDS 604 Research Project II (Research report writing leading to a Dissertation in one field of Design)	90

8.0 DOCTOR OF PHILOSOPHY IN DESIGN

8.1 INTRODUCTION

The programme engages and explores, through research, design theory and practice with the aim of furthering knowledge of design and its applicability to industry and development.

The programme prepares candidates for leadership positions in the field of design as educators, researchers and policy analysts with the primary aim of improving performance in the relevant design domains. The candidates will be expected to participate in seminars and conduct in-depth research in design and related fields.

STAFF LIST

Director of School

Dr. Lilac A.Osanjo

Senior Lecturer

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Maina, S.M., BA Design, (Nairobi), MA, (KU), PhD, (Nairobi)

Lecturer

Mutune wa Gitau, BA Design, (Nairobi), MSc, (Michigan)

Makunda, S.C., BA Design, (Nairobi), MA. Interior Arch., (Oregon), MCP, (Pennsylvania)

Munene, M., BA Design, MA, PhD, (Nairobi)

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Francisca, O., BA Design, (Nairobi), MBA, (Leicester), MA, (KU)

Tutorial Fellow

Keter, C.K., MSc. Graphic Arts, (Moscow)

Akach, J.A., BA Design, MA, (Nairobi)

Mosomi, J.O., BA Fashion Product Innovation (Rochester), MA. Marketing Mgt, (London)

Mwiti, B.K., BA Design, MA, (Nairobi)

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 Director, School of the Arts and Design

P.O. Box 30197, 00100 Nairobi

Telephone: 2724524, Ext. 238;

Email: designdept@uonbi.ac.ke;

Website: www.uonbi.ac.ke/faculties/faculty_page

SCHOOL OF THE BUILT ENVIRONMENT

Dean of School: Dr. Mary W. Kimani, BSc, Agriculture, MA (Planning), PhD, Land Economics, (Nairobi), Reg. Planner, MAAK, MKIP

Assistant Registrar: Mr. James M. Ireri, BEd (Arts), MEd.(Educational Administration & Planning), (Nairobi), PGDHRM (CHRM), CISCO (IT Essentials), IQA, IAO and MKIM.

INTRODUCTION

The School of the Built Environment was established on January 3, 2006, following the re-structuring of the former Faculty of Architecture, Design and Development. The School offers a unique range of educational opportunities spanning the diverse range of professions involved in planning, architecture and construction, development and costing, valuation and management of the environment and infrastructure. Its driving philosophy is geared towards the promotion of effective training, education, relevant research and academic excellence in the built environment and related fields.

The School caters for the needs of government, industry, local and international communities and professional practice by providing courses in Architecture and Design Technology, Construction Management, Quantity Surveying, Valuation and property Management, planning, Housing and Urban Management. The courses offered in the School embrace a diversity of subjects, the main common theme running through them being the man-made physical environment and the exercise of human control over it.

There are opportunities within the undergraduate taught programmes for industrial placements, field trips, and practical work, which supplement the usual mix of lectures, assignments and group work. To enrich our programmes, the School maintains close links with the needs of practice through scholarships, research and consultancy. Virtually all courses are fully recognized and accredited by the relevant professional bodies. These include Architectural Association of Kenya, Institution of Surveyors of Kenya, Institute of Quantity Surveyors of Kenya and Kenya Institute of Planners. In addition, the Bachelor of Architectural Studies/Bachelor of Architecture course is accredited by Commonwealth Association of Architects.

The professions within the School of The Built Environment have got a long history. They are as old as the University of Nairobi itself. In 1967, the former Faculty of

Arts and Architecture was re-named the Faculty of Architecture, Design and Development. This change of title reflected a re-appraisal of the objectives and scope of activities undertaken by the Faculty and the corresponding changes in the courses offered as introduced during the 1967-1970 triennium.

The School currently comprises of 4 departments namely; Department of Architecture and Building Science, Real Estate, Urban and Regional Planning and Construction Management and Quantity Surveying. The School offers professional courses in the fields of Architecture, Real Estate, Quantity Surveying, Construction Management, and Planning leading to Bachelor degrees in these fields. There are also, currently 6 two year postgraduate courses in Urban Management, Planning, Housing Administration, Valuation and Property Management, Construction Management and Architecture. The programmes are also open to self-sponsored students commonly referred to as Module II programmes. As a professional School with diverse interests and needs, we are committed to being the leading built environment teaching and research institution in Africa. In order to offer relevant, dynamic and market driven academic programmes, all the Departments within the School are currently developing new curriculum in their respective disciplines.

COMMON UNDERGRADUATE EXAMINATION REGULATIONS FOR THE SCHOOL OF THE BUILT ENVIRONMENT

ENTRY REQUIREMENTS

SBE 1. Candidates shall be eligible for the various undergraduate degrees in the School of the Built Environment.

i) KCSE Candidates

The basic admission requirement shall be the minimum requirement set for entry into the Public Universities which is at least an average grade C+. In addition a candidate must have at least a grade of C+ in Mathematics and in the cluster subjects.

ii) “A” Level Candidates

Candidates must have attained two principal passes in Mathematics and any one of the cluster subjects as in KCSE.

iii) Diploma Candidates

A minimum KCE Division II or KCSE mean grade C and at least C in Mathematics in addition to a pass in the KNEC Diploma in construction industry or any other related field.

iv) Higher Diploma (HD)

Candidates with KNEC Higher Diploma or equivalent in courses.

v) Degree Holders

Holders of university degree from recognized universities in the cluster areas with at least a C+ in Mathematics in KCE or KCSE.

Bachelor of Architectural Studies or equivalent from recognized universities may be considered for admission in the degree of Bachelor of Architecture in the fourth year of study subject to the regulation in regard to Credit Transfer and Exemption in accordance with SBE 2(b).

DEPARTMENT OF ARCHITECTURE AND BUILDING SCIENCE

BACHELOR OF ARCHITECTURAL STUDIES/BACHELOR OF ARCHITECTURE (B.A.S./B.ARCH)

The Bachelor of Architectural Studies/Bachelor of Architecture is a two-tier degree programme that has architectural design as its central discipline. The course structure provides for an intermediate degree, the Bachelor of Architectural Studies(B.A.S.), after four years of study and a professional degree Bachelor of Architecture (B. Arch) after six years.

The course aims to equip the student to comprehend the environmental context of their society, the physical, behavioral, perceptual as well as sensory needs of man, the nature and needs of man's institutions and to evaluate and sensitize these understandings, synthesizing them into design solutions of built forms.

The projects chosen and inputs given are directly related to the Kenyan context.

Architectural Design, which is the core of the course consists of architectural design studio, architectural graphics and communication, basic design, art, photography and computer aided design. In depth studies in Interior Design, Landscape design and Architectural Conservation are available as electives.

The first two years of the course deliver the basic knowledge of architecture through lecturer inputs focused on the core areas of the discipline and an enhanced studio featuring the basic design skills and communication techniques. These years lead to explorations of the design process.

The third and fourth years of the programme focus on the consolidation of this knowledge with more complex design problems and exposure of students to projects of human institutions in rural, peri-urban and urban situations. Students also get a chance to pick an elective stream and study in greater detail the areas of Interior Architecture, Landscape Architecture and Architectural Conservation. Each student is then required to submit a design project at the end of the fourth year.

The fifth and sixth years of the course are focused on preparing the student for a career in architectural practice. After a series of theory units geared to this goal, the student is required to prepare and submit a project paper and design project in area of his choice approved by the Department.

ENTRY REQUIREMENTS

i) KCSE Candidates

In addition to satisfying the University minimum entrance requirements, a candidate must also have attained a minimum grade of C+ at the KCSE examination in the following subject clusters:

1. English or Kiswahili
2. Mathematics
3. Physics or Chemistry or Biology or Physical Science or Biological Sciences
4. Art and Design
 or Drawing and Design *or* Building Construction
 or Music *or* Economics
 or Geography *or* Social Education and Ethics
 or History and Government *or* CRE/IRE

ii) 'A' Level Candidate

Candidates must have attained two principal passes in Mathematics and any one of the following subjects:-

- Physics - Chemistry - Geography
- Economics - Art and Design

and a Credit pass in English Language at KCE or equivalent examination.

iii) Diploma Candidates

Candidates must have attained the KNEC Diploma in Architecture, Building Construction or related fields with a credit pass or equivalent.

iv) Degree Holders

Candidates must have attained a degree from a reorganized university in:-

- Land Economics - Building Economics - Design
- Civil Engineering - Surveying - Urban and Regional Planning
- or any other relevant degree

v) In categories (iii) and (iv)

Candidates may be required to present portfolios and appear for interviews.

COURSE OUTLINE AND MODE OF EXAMINATION

FIRST YEAR			
		Hours	Exam (Hr paper)
Semester 1			
CCS 001	Communication Skills	45	1 x 2
BAR 101	Building Technology & Services 1	45	1 x 2
BAR 103	History & Theory of Architecture 1	45	1 x 2
BAR 105	Mathematics for Architecture	45	1 x 2
BAR 107	Geology/Climatology	45	1 x 2
BAR 113	Architectural Design 1	240	By Coursework
Semester 2			
BAR 102	Building Technology and Services 2	45	1 x 2
BAR 104	History And Theory of Architecture 2	45	1 x 2
BAR 106	Sociology	45	1 x 2
CCS 009	Elements of Economics	45	1 x 2
BAR 108	Anthropology	45	1 x 2
CCS 010	HIV/AIDS	45	1 x 2
BAR 114	Architectural Design 2	240	By Coursework
SECOND YEAR			
Semester 1			
BAR 201	Building Technology and Services 3	45	1 x 2
BAR 203	History And Theory of Architecture 3	45	1 x 2
BAR 205	Building Science 1 (Thermal Design)	45	1 x 2
BAR 207	Theory & Design of Structures 1	45	1 x 2
BAR 209	Urban and Regional Planning	45	1 x 2
BAR 213	Architectural Design 3	240	By Coursework

Semester 2			
BAR 202	Building Technology and Services 4	45	1 x 2
BAR 204	History And Theory of Architecture 4	45	1 x 2
BAR 206	Building Science 2 (Lighting Design)	45	1 x 2
BAR 208	Theory and Design of Structures 2	45	1 x 2
BAR 210	Interior Architecture 1	45	1 x 2
BAR 214	Architectural Design 4	240	By Coursework
THIRD YEAR			
Semester 1			
BAR 301	Building Technology and Services 5	45	1 x 2
BAR 303	Theory and Design of Structures 3	45	1 x 2
BAR 305	Landscape Architecture 1	45	1 x 2
BAR 307	Elements of Law	45	1 x 2
BAR 309	Architectural Conservation 1	45	1 x 2
BAR 313	Architectural Design 5	180	By Coursework
Semester 2			
BAR 302	Building Technology and Services 6	45	1 x 2
BAR 304	History and Theory of Architecture 5	45	1 x 2
BAR 306	Surveying	45	1 x 2
BAR 308	Building Science 3 (Acoustics)	45	1 x 2
BAR 310	Housing & Human Settlements	45	1 x 2
BAR 314	Architectural Design 6	180	By Coursework
One elective unit to be chosen from any one stream			
BAR 320	Architectural Conservation 2	45	1 x 2
BAR 322	Interior Architecture 2	45	1 x 2
BAR 324	Landscape Architecture 2	45	1 x 2

FOURTH YEAR			
Semester 1			
BAR 401	Architectural Research Methods	45	1 x 2
BAR 403	Building Costs	45	1 x 2
BAR 405	Principles of Management	45	1 x 2
BAR 413	Architectural Design 7 (Thematic)	180	By coursework
One Elective Unit to be chosen from the Stream already chosen			
BAR 421	Conservation 3	45	1 x 2
BAR 423	Interior Architecture 3	45	1 x 2
BAR 425	Landscape Architecture 3	45	1 x 2
Semester 2			
BAR 414	Design Project	360	By Coursework
FIFTH YEAR			
Semester 1			
BAR 502	Urban Design	45	1 x 2
BAR 503	Advanced Building Technology	45	1 x 2
BAR 505	Sustainable Design	45	1 x 2
BAR 513	Advanced Architectural Design 1	240	By Coursework
Semester 2			
BAR 501	Architectural Practice and Management	45	1 x 2
BAR 504	Advanced Architectural Computing	45	By Coursework
BAR 506	Contemporary Architectural Theory	45	1 x 2
BAR 514	Advanced Architectural Design 2	240	By coursework
SIXTH YEAR			
BAR 613	RESEARCH PROJECT	180	By coursework
BAR 614	DESIGN PROJECT	360	By coursework

DEPARTMENT OF ARCHITECTURE & BUILDING SCIENCE

STAFF LIST:

Chairman of Department:

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Mukeku, J., BArch, MArch, (Nairobi), MPhil, (Cambridge), PhD, (Oslo), MAAK(A)

Kedogo, M.M., BArch, MArch, (Nairobi), PhD, (Leuven)

Assistant Lecturer:

Ngummo, R.M.K., BA, BL.Arch. (Guelph), FAAK(LA)

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Too, D.K., BArch, MArch, (Nairobi), MAAK(A)

Essajee, A.A., BArch, (Nairobi)

Tuju, B.O., BArch, MArch, (Nairobi)

Madete, E.M., BArch, (Nairobi)

Adan, Z.A., BArch, (Nairobi)

Ponda, S.M., BArch, (Nairobi), MAAK(A)

Mutonga, P.W., BArch, (Nairobi), MArch, (Cambridge), MAAK(A)

Chief Technologist:

Yasir, B.K., BArch, MArch, (Nairobi), MBA, (USIU), MAAK(A)

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND QUANTITY SURVEYING

BACHELOR OF QUANTITY SURVEYING

1.0 COURSE OBJECTIVES

The Bachelor of Quantity Surveying is a 4 year full time programme that aims at equipping the learners with specialized skills and techniques which enable them to interact with other professionals in the construction industry; to provide independent, objective, accurate and reliable capital/operating cost assessments for investment funding and project administration and control; to analyze investments and developments for the guidance of owners, financiers and contractors. The program aims to equip learners with skills to apply basic principles in measurements, management, technology, economics, and law in the construction industry; foster the acquisition of practical and specialized technical skills relating to the cost engineering, critical analysis, interpretation and discussion of information and data relating to construction projects amongst learners; and affords learners a stimulating learning environment that inculcates professional values necessary for a highly conscientious and responsible individual in quantity surveying practice. The program produces graduates who help to improve the efficiency of the building construction process. It prepares learners for careers in the construction industry in the areas of building and engineering construction, cost modelling, construction cost consultancy and quantity surveying, project management, and dispute resolution, among others.

At the end of the programme, the learner should be able to:

1. Apply knowledge, skills, competencies and attitudes in the field of quantity surveying;
2. Explain the theories and techniques of quantity surveying;
3. Apply the principles and practices of quantity surveying;
4. Discuss the application of quantity surveying theories and techniques in various contexts;
5. Demonstrate intellectual abilities in various fields of quantity surveying.

2.0 ENTRY REQUIREMENTS

Applicants must meet the stipulated minimum University of Nairobi General Admission criteria as provided for under statute XIX. Applicants with the following qualifications will be eligible for consideration for admission into the degree programme:

- a) **KCSE Applicants or Equivalent:** Mean Grade C+ with a minimum of grade C+ in the following subject clusters: English or Kiswahili; Mathematics; Physics; Geography or Accounts or Business Studies or Economics or Building Construction or Drawing and Design.
- b) **KACE (A Level) Applicants or Equivalent:** Two Principal Passes with a minimum principal 'D' pass in either Mathematics or Physics and in any one of the following subjects: Economics, Geography, and Chemistry and a credit pass in the English language at KCE level or equivalent
- c) **Diploma Holders:** A minimum KCE Division II or mean grade C in KCSE in addition to a credit pass or equivalent of the Kenya National Examinations Council (KNEC) Diploma or its equivalent in: Building Construction, Architectural Studies, Civil Engineering and Applied Physical Sciences.
- d) **Degree Holders:** A holder of a University degree or its equivalent from a recognised University in the following areas: Architecture, Engineering, Design, Economics, Commerce, Land Economics, Planning or any other relevant equivalent degree.

BACHELOR OF CONSTRUCTION MANAGEMENT

1.0 COURSE OBJECTIVES

The Bachelor of Construction Management is a 4 year full-time degree programme. It is a multi-faceted discipline derived from the four main areas of knowledge namely management, law, economics and technology. Its concept, principles and practice are applied with judgement to develop ways to utilize resources economically in the construction industry. Graduates of this degree programme will acquire knowledge in principles and practices that focus on the management activities and challenge that organizations face when they undertake construction projects. The degree programme aims to fill the gap in the management of construction emphasizes the key functions that are applicable to the management of a construction project throughout the construction process. It covers basic concepts, principles, systems and procedures which impact on management functions and processes throughout the project life cycle.

At the end of the four years' degree programme, the learner should be able to:

1. Apply knowledge and skills in addressing management challenges in the implementation of construction projects.
2. Assess the quality of performance in the construction industry.
3. Develop and create better building methods for effective and efficient utilization of resources including faster cost-effective delivery of construction industry products/outputs.
4. Create empowering and innovative approaches to the discipline of construction management.
5. Develop an awareness of the opportunities for the development of construction management as a profession.
6. Critically evaluate, appraise and interpret information and its application in the construction industry.

2.0 ENTRY REQUIREMENTS

Applicants must meet the stipulated minimum University of Nairobi General Admission criteria as provided for under statute XIX. Applicants with the following qualifications will be eligible for consideration for admission into the degree programme:

- a) **KCSE Applicants or Equivalent:** Mean Grade C+ with a minimum of grade C+ in the following subject clusters: English or Kiswahili; Mathematics; Physics; Geography or Accounts or Commerce or Business Studies or Economics or Building Construction or Drawing and Design or Art and Design.
- b) **KACE (A Level) Applicants or Equivalent:** Two Principal Passes; a minimum principal 'D' pass in either Mathematics or Physics and in any one of the following subjects: Economics, Geography, and Chemistry and a credit pass in the English language at KCE level or equivalent
- c) **Diploma Holders:** A minimum KCE Division II or mean grade C in KCSE in addition to a credit pass or equivalent of the Kenya National Examinations Council (KNEC) Diploma or its equivalent in: Building Construction, Architectural Studies, Civil Engineering and Applied Physical Sciences.
- d) **Degree Holders:** A holder of a University degree or its equivalent from a recognized University in the following areas: Architecture, Engineering, Design, Economics, Commerce, Quantity Surveying, Building Economics, Land Economics, Planning or any other relevant equivalent degree.

MASTER OF ARTS DEGREE IN CONSTRUCTION MANAGEMENT

1.0 COURSE OBJECTIVES

The Master of Arts in Construction Management is a 2 year part-time degree programme. It is a multi-faceted discipline derived from the four main areas of knowledge namely management, law, economics and technology. Its concept, principles and practice are applied with judgement to develop ways to utilize resources economically in the construction industry and make it profitable for all players. It aims at providing graduates with knowledge of principles and practices that focus on the management activities and challenges that organizations face when they undertake construction projects. Additionally, it equips learners with skills necessary for further independent research or specialized professional employment in the construction industry. This will enable him/her to make rational decisions and provide solutions in regard to complex construction situations. The philosophy of the programme is to develop an integrative environment of the construction project guided by the project objectives and not by individual professional interests. Additionally, to produce highly skilled and innovative graduates of construction management equipped to solve the management challenges of the highly technical construction industry.

At the end of the programme the learner should be able to:-

1. Appraise the needs to all project stakeholders.
2. Integrate knowledge and skills in resolving management challenges in the implementation of construction projects.
3. Perform all the processes as per the nine areas of knowledge in PMBOK.
4. Evaluate and close a project.
5. Assess the quality of performance in the construction industry.
6. Develop appropriate building methods for effective and efficient utilization of resources in the construction industry.
7. Create empowering and innovative approaches to the discipline of construction management.
8. Critically evaluate issues in the construction industry.

2.0 ENTRY REQUIREMENTS

- 2.1 The common regulations governing the Masters degree in all Faculties of the University of Nairobi shall apply.

- 2.2 Holders of at least an Upper Second Class Honours Degree in Building Economics, Quantity Surveying, Construction Management, Architecture, Engineering, Land Economics, Real Estate from the University of Nairobi or an equivalent qualification from a university recognized by Senate.
- 2.3 Holders of at least a Lower Second Class Honours Degree in any of the disciplines specified in 2.2, with a relevant postgraduate diploma or other equivalent qualifications or at least two years relevant work experience.

DOCTOR OF PHILOSOPHY IN CONSTRUCTION MANAGEMENT

1.0 COURSE OBJECTIVES

The programme blends development theories with practice in the building and construction industry by exploring through research work issues in the built environment with the aim of furthering knowledge on changing paradigm and their applicability to the said industries.

The programme aims to prepare students for senior positions in the field of construction management as academics, researchers and policy analysts with the primary aim of improving performance on the relevant industries. The students will be expected to participate in seminars and conducts in-depth research on areas in the building and construction industries.

2.0 REGULATIONS

The Common Regulations for the Degree of Doctor of Philosophy in all Faculties shall apply to the Doctor of Philosophy degree in the Department Construction Management and Quantity Surveying.

STAFF LIST

Chairman of Department:

Wachira-Towey, I.N., BA Building Economics (Nairobi), MEng Project Mgmt, (Concordia), PhD, (Cape Town,) RQS, FIQSK, FICPMK, FCI Arb, MIOD

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Oketch, T.O., BA Building Econ, MA Construction Mgmt, (Nairobi), FIQSK, FAAK, FICPMK, FCI Arb, RQS

Njue, P.N., BArch, (Nairobi), Mphil, (Cambridge), MAAK, RArch.

Odwallo, J.O., BArch, MArch, (Nairobi), BORAQS, on secondment to Construction and Maintenance

Olivia, S.O.M., BA Building Econ, (Nairobi), MA Construction Mgmt., (Nairobi), RQS, CIQSK, CAAK

Ntarangui T. N. BA, Building Econ., MA Building Mgmt (Nairobi), MAAK(QS), MIQSK,

Tutorial Fellow

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Wamuyu, I.N., BCM, MA Construction Mgmt., (Nairobi), ICPMK

Waweru, E.K, BCM, MA Construction Mgmt, (Nairobi), ACMK

Graduate Assistant

Mwendwa, K., BA Building Econ, (Nairobi), IQSK

Ochieng, B., BQS, (Nairobi), MIQSK, RQS

Juma, C., BQS, (Nairobi), MIQSK, RQS

Kamau, S., BCM, (Nairobi), ACMK

DEPARTMENT OF REAL ESTATE

REGULATIONS AND SYLLABUS FOR THE DIPLOMA IN ESTATE AGENCY AND PROPERTY MANAGEMENT

1.0 INTRODUCTION

There is an increasing demand for skills and expertise in property valuation, property development, land administration, and property management and estate agency. This demand has been evidenced by the ever-increasing rate of urbanisation and development of different types of properties in Kenya but in the East and Central African region. The Department of Real Estate University of Nairobi is sensitive to this industry's demand and has designed a series of training programmes in the property sector at various levels. One such training is the Diploma programme in Estate Agency and Property Management that seeks to sensitize students to the importance of property management in the region. The course is designed to meet the increasing demand for a higher degree of accountability and expertise in persons engaged in the practice of selling, letting and the management of the real estate in Kenya.

2.0 OBJECTIVES

- i) To equip candidates in real estate agency and property management with the technical skills, knowledge and values appropriate to their current practice or preferred career-paths.
- ii) To enable a wide cross-section of individuals to pursue diploma training while pursuing their careers.
- iii) To contribute to the development of a broad range of demand-driven skills, incorporating new thinking and practice; and thereby give successful trainees strategic advantage in an increasingly sophisticated network of national and regional institutions and economies in the property industry.
- iv) To provide an alternative avenue to the Bachelor in Real Estate degree at the University of Nairobi.

3.0 ENTRY REQUIREMENTS

Applicants must satisfy the minimum entry requirements for the admission into the University of Nairobi diploma programmes. Also, the applicants must possess the following qualifications.

- i) KCSE certificate with a minimum aggregate of C or equivalent with minimum passes at C in Mathematics and English.
- ii) KCE certificate with a minimum grade of Division II and credits in Maths and English or Division III plus a certificate or equivalent professional training.
- iii) KACE qualification with a minimum of 1 principal pass, or equivalent.
- iv) A holder of a Diploma or an equivalent qualification from an institution recognized by Senate
- v) Holder of a degree from the University of Nairobi or any other Institution recognized by Senate.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF BACHELOR OF REAL ESTATE (BRE)

1.0 INTRODUCTION

The real property discipline today is subjected to extraordinary forces that have redefined its attributes and introduced new expectations in property development, valuation, management and administration.

The curriculum is a response to the changing trends in the real estate industry and allows for a considerable degree of flexibility and integration of several disciplines. It was developed in consultation with various stakeholders in the real estate industry including professional bodies and government organisations. It has re-structured or re-packaged some units in the old programme, embraced new concepts and practices in the industry and introduced new course units. To improve on its utility, the programme has been developed to offer the Bachelor of Real Estate degree with two options namely, valuation and property management, and land and housing administration.

The valuation and property management option equips graduates to acquire skills in real property-related disciplines, including information communication technology for use in computer-aided and mass valuations; investment appraisals and financial analysis of property developments; appreciation of commercial business values within the context of property development and to understand the legal framework within which the property investment, development, valuation and management processes occur.

The land and housing administration option equips students with a comprehensive understanding of concepts and application of both land information systems (LIS) and geographical information systems (GIS); land and housing administration, land policy framework, land and use management and the dynamics and operation of land and housing markets.

2.0 COURSE OBJECTIVES

The main objectives of the course are:

- i) To provide students with sound theoretical knowledge to enable them to think analytically and conceptually in finding solutions to problems in the real estate market.
- ii) To provide students with a comprehensive understanding and knowledge of real estate concepts, practical skills and values in valuation and investment appraisal, real estate business, property management, land and housing administration.
- iii) To equip students with specialized skills and techniques which enable them to provide independent, objective, accurate and reliable investment analysis and assessment, as well as manage, built assets and the environment to the benefit of owners, occupiers, and society.
- iv) To produce graduates who will help to improve the efficiency of the property investment market, property valuation and management, land and housing administration.

3.0 ENTRY REQUIREMENTS

Applicants must meet the stipulated minimum University of Nairobi General Admission criteria. In addition, applicants must meet the following qualifications to be eligible for admission into the degree programme:

- a) **K.C.S.E. Applicants or Equivalent:** Mean Grade C+ with a minimum of grade C+ in the following subject clusters:
Cluster I: Mathematics
Cluster II: English or Kiswahili
Cluster III: Physics or Chemistry or Biology or Accounts or Business Studies or Economics
Cluster IV: Geography or Agriculture or History or Building Construction or Drawing and Design or Woodwork;

- b) **KACE ('A' Level) Applicants or Equivalent:** Two Principal Passes in any one of the following subjects: Economics, History, Geography, Commerce, or any other relevant subject, and a credit pass in the English language and Mathematics at KCE level or equivalent.
- c) **Diploma Holders:** Kenya National Examinations Council (KNEC) Diploma or its equivalent in: Building Construction, Architectural Studies, Land Surveying and Civil Engineering; or Diploma in Estate Agency and Property Management from University of Nairobi or any other institution of higher learning recognized by the University of Nairobi Senate.
- d) **Degree Holders:** A holder of a University degree or its equivalent from a recognized University in the following areas: Architecture, Engineering, Design, Economics, Quantity Surveying, Construction Management, Commerce, Building Economics and Planning.

REGULATIONS AND SYLLABUS FOR THE POSTGRADUATE DIPLOMA IN HOUSING ADMINISTRATION

1.0 INTRODUCTION

Rapid urbanization, chronic housing shortage and increasing urban informal settlements are major policy issues facing housing administration in Kenya today. Rising demand for good quality housing, low levels of income and increasing costs of building materials, housing finance and building land have interacted to produce a complex situation for professionals and policy workers in the housing field. There is thus increased demand for higher degree of accountability for those involved in the administration of housing provision both at the national level and in the counties. Consequently, the demand for specialized post-graduate education in housing administration has been expressed by both public and private sector seeking to find professionals to look at the housing problems not merely as the task of providing new housing, but also to ensure efficient management of existing housing stock, its correct utilization, and its due care and maintenance.

In line with the Universal Declaration of Human Rights which recognizes the right to adequate housing as an important component of the right to adequate standard of living The Kenya Constitution 2010 states that 'every person has a right to affordable and adequate housing'. The struggle for housing, as a basic human need increases progressively as the human race advances in numbers and cultural diversity.

The Postgraduate Diploma in Housing Administration has been developed in collaboration with the Ministry of Housing which is the Ministry charged with the responsibility of facilitating affordable and adequate housing for Kenyans. This was in response to demand by professionals employed in the Ministry who have no housing background. The course will also be relevant to the county and local authorities.

DEPARTMENT OF URBAN AND REGIONAL PLANNING

REGULATIONS AND SYLLABUS FOR THE DEGREE OF BACHELOR ARTS IN PLANNING [BA (PLANNING)]

1.0 INTRODUCTION

The Department of Urban and Regional Planning offers two degree programmes. These are B.A (Planning) and M.A (Planning). These two degree course programmes are recognized for the registration of Physical Planners in Kenya under the Physical Planners Registration Act (PPRA) 1996 and; The Legal Notices No. 23, No. 24 and No. 25 on the Physical Planners (Professional Misconduct (Procedure) Rules 1998.

2.0 COURSE OBJECTIVES

1. To improve the quality of the professional planner, to facilitate and guide society in spatial policy, plan formulation, plan preparation and implementation at village, community, neighbourhood, rural/urban district, urban/metropolitan, sub-county/location, sub-regional/county, regional/sub-national, and national levels.
2. To increase the number of trained and professionally qualified planners who are able to provide spatial planning services to small establishments such as the smaller urban and rural local authorities and private sector who are financially not able to employment services of Masters level in planning degree holders.
3. To train planning professionals capable of working for the National Government, County Governments, city and municipal boards and town committee jurisdiction; regional development authorities, Non-governmental Organizations (NGOs), or to practice as planners in private consulting firms.
4. To buttress the MA. (Planning) and PhD. (Planning) in planning programmes with an undergraduate training component in furtherance of disciplinary

- (theoretical/philosophical/research) and professional (practice/praxis) growth and development of planning in Kenya, East Africa and the rest of the world.
5. To respond to the needs of the Kenya public generally and the Government of Kenya in particular, by enacting a wide range of planning legislation to guide, manage and regulate urban and regional growth and development. Specifically through the proper allocation and use of private and public land as well as other land-based resources, the planner will make key contribution in decision-making.
 6. To support the implementation of the:-
 - a) The Constitution of Kenya, 2010, Article 66, Article 184, Article 185 and Article 186
 - b) The Physical and Land use Planning Act (PLUPA), No 13, 2019
 - c) The Physical Planners Registration Act 1996
 - d) The County Government Act (CGA), No. 17, 2012
 - e) The National Land Commission Act No 5, 2012
 - f) The Urban Areas and Cities Act (UACA) No. 13, 2011
 - g) The Land Act (No. 6), 2012
 - h) The Legal Notice No. 23, No. 24 and No. 25 on the Physical Planners (Professional Misconduct) (Procedure) Rules, 1998, all of which proscribe anyone except registered planners from carrying out planning work in Kenya.
 7. To enhance the development of relevant and quality education for professional planning in Kenya, the African continent in general and globally.
 8. To enhance institutional and financial resource of DURP through increased student numbers, attracting research funds and other types financial endowments.

3.0 ENTRY REQUIREMENTS

1. Candidate must meet the Minimum University general admission criteria of C+
2. In addition candidates must have attained the required minimum grades of C+ at the Kenya Certificate of Secondary Education (KCSE) in

3.1 Subject Clusters:

- | | |
|-----------------|--|
| 1. Mathematics | 3. Any Group III |
| 2. Any Group II | 4. 2nd Group II/any Group III/any Group IV/any Group V |

KCSE Subject Grouping

Group I	Group II
- English	- Biology
- Kiswahili	- Physics
- Mathematics	- Chemistry
Group III	Group IV
- History and Government	- Home Science
- Geography	- Art and Design
- Christian Religious Education	- Agriculture
- Islamic Religious Education	- Aviation Technology
- Hindu Religious Education	- Computer Studies
Group V	
- French	- Arabic
- German	- Music
- Business Studies	

3. Applicants with diplomas in planning or specialization in urban planning or regional planning may be admitted into the Bachelor of Arts in Planning parallel degree programme so long as they have proven experience of at least two years work in a relevant government department, local authority, non-governmental organization, relevant spatial planning agencies, private enterprising company or private planning office or firm. In such a case, the admission of the applicant is subject to the approval of the University of Nairobi.

MASTER OF ARTS IN PLANNING

1.0 INTRODUCTION

The Master of Arts in Planning programme aims to train a high calibre of professionally qualified personnel in urban and regional planning. Many African countries have recently adopted policies for decentralized development and governance, which has led to a growing demand for qualified planners. The programme provides planners with the requisite skills and specialized knowledge needed to address numerous challenges associated with rapid urbanization, resource use and rapid population increase in Africa. The Department of Urban and Regional Planning is a leading institution for training professional planners in the entire Eastern and Southern Africa region. The regulations for the degree of Master of Arts in Planning have been revised to provide flexibility for applicants to pursue the course on semester basis.

The programme incorporates theoretical foundations of planning and a strong practical and professional training, along with basic multi-disciplinary knowledge in planning areas, methods of research and analysis and computer application skills. The course is intended for graduates and professionals with relevant educational background and experience who wish to take up planning roles with public, private, voluntary and international agencies working at local, sub-national, national and international levels.

2.0 COURSE OBJECTIVES

- Provide requisite skills and knowledge needed to contribute effectively to the formulation, design and implementation of local, sub-national and national planning in its various concerns;
- Provide in depth knowledge and understanding of the complex interactions between the natural and the built environment and the dynamic nature of urban and regional development;
- Develop appreciation and commitment to professional standards and ethics, recognizing the pluralistic nature of development, variety of stakeholders and the planner's multiplicity of roles.

3.0 ENTRY REQUIREMENTS

The common regulations for the Masters degrees for all faculties of the University of Nairobi shall be applicable.

The following shall be eligible for admission into the degree of Master of Arts in Planning:

- A holder of a Bachelor's degree, of at least Upper Second Class Honours in Planning, Architecture, Land Economics, Building Economics, Civil Engineering, Design, Surveying, Agriculture, Law, Economics, Geography, Sociology, Government, Anthropology, Social Work or any other relevant discipline from the University of Nairobi or any other institution recognized by the University of Nairobi Senate as being of comparable academic status;

- ii) A holder of a Bachelor's degree, of Lower Second Class Honours in any of the degree categories specified in (i) above with a relevant Postgraduate Diploma or other equivalent qualification from the University of Nairobi or any other institution recognized by the University of Nairobi Senate as being of comparable academic status;
- iii) A holder of a Bachelor's degree, of Lower Second Class Honours in any of the degree categories specified in (i) above with at least 2 years of relevant planning/development work experience.

DOCTOR OF PHILOSOPHY IN PLANNING

1.0 INTRODUCTION

The Doctor of Philosophy programme in the Department of Urban and Regional Planning offers opportunity for advanced academic and scholarly work in the field of planning encompassing both urban and regional planning. The programme blends norm of development theories with planning theory and practice by exploring through research work, the central theoretical and methodological issues in concerning development; and the various streams of substantive and procedural planning theory informing the process development. The aim is furtherance of knowledge on changing development and planning paradigms and their applicability to understanding the processes of development, organization and practices of planning for them.

The programme aims to prepare students for senior positions in the field of planning, with special reference to planning for spatial in relation to temporal dimensions of development both as researchers and policy analysts with the primary aim of making the development process meaningful, interactive and sustainable. The students will be expected to participate in seminars and conducts in-depth research on topics on planning for development falling within the research priorities of the Department.

STAFF LIST

Chairman of Department:

Mwangi, K., BSc (Hons), MA (Planning), (Nairobi), PhD (Planning), (Waterloo), MEIK, MKIP, FKIP
Certified Planner Lead EIA Expert

Professor:

Obudho, R.A., AASc, (Sunny-Cobleskill), BSc, (Sunny-Albany), BSc, (Albany), MSc, PhD, (Rutgers), PGDE (E. Africa)

Associate Professor:

Akatch, S.O., BA (Land Econ), (Nairobi), MA, (Planning), (Nottingham), MRTPI, Dr. Reg. Plan. (Dortmund), MRTPI MAAK (T.P.), Regd Planner
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Senior Lecturer:

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Lecturer:

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Karisa, D.C., BArch, MA (Planning), (Nairobi), MAAK (A), MKIP, Certified Planner (*On leave*)
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Musyoka, R.M., BA, MA (Philosophy), MA (Planning), (Nairobi), PGD, (Erasmus), PhD, (Birmingham) MKIP (*On leave*)

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Wamuchiru, E.K., BA (Planning), MA (Planning), (Nairobi), Dr. Reg. Plan, (Darmstadt)
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Osengo, C., BA (Hons), MA (Planning), MKIP, Regd. Planner

Graduate Assistant:

Olale, P.O., BA, (Planning), M.A. Env. Law, (Nairobi)

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 School.

Please Contact:

The Dean; School of the Built Environment
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SCHOOL OF ENGINEERING

Dean of School:

Prof. Gitau, A.N., BSc, (Egerton), MSc, PhD, (Nairobi), REng.MIEK, MKENDAT, MKSAE

Senior Administrative Assistant:

Mr. Nyang'ara, S.A, BEd (Nairobi), MBA (Maseno).

Registry Clerk

Ms. Weru, M.W, BEd (Arts) Nairobi.

REGULATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN THE SCHOOL OF ENGINEERING

1.0 ENTRY REQUIREMENTS

F1. Candidates shall be eligible for admission into the Bachelor of Science degree in the School of Engineering in the following categories:

a) KCSE Candidates

The basic admission requirement shall be the minimum requirement set for entry into the Public Universities which is a mean grade of at least C+ in the Kenya Certificate of Secondary Examinations (KCSE). In addition, candidates shall have obtained a least C+ in each of the four clusters of subjects from any of the following alternative clusters. However, a cut-off grade higher than C+ in each cluster subject shall be preferred if limitation of the number of places available for each degree programme versus the number of qualified candidates so demand. The said cut-off grades shall be determined and implemented by the School Board.

Alternative A:

Physics	Biology or Geography or any Group IV Subject
Chemistry	
Mathematics	

Alternative B:

Physical Sciences	Geography or any Group IV Subject
Biological Sciences	
Mathematics	

Group IV Subjects:

Home Science	Building Construction	Art and Design
Power Mechanics	Agriculture	Electricity
Woodwork	Drawing and Design	Metalwork
Aviation Technology		

b) A-level Candidates

Candidates with a minimum entry requirement of principal C passes in Mathematics and Physics and a subsidiary level pass in Chemistry with a credit pass in English at 'O' level, except that for Geospacial Engineering, a subsidiary level pass in Geography shall also be accepted in lieu of Chemistry.

c) KNEC Higher National Diploma (HND) or Equivalent

Candidates with Higher National Diploma in the following broad areas of study:

i) Agricultural Engineering	iv) Mechanical Engineering
ii) Civil Engineering	v) Geospacial Engineering
iii) Electrical Engineering	vi) Any other approved subject area.

d) Ordinary KNEC Diploma or Equivalent (With credit pass)

i) Agricultural Engineering	iv) Mechanical Engineering
ii) Civil Engineering	v) Geospacial Engineering
iii) Electrical Engineering	vi) Any other approved subject area.

e) Diploma from Science/Technical Teacher Training Colleges

Candidates with a diploma mathematics and physics from recognized teacher training college.

f) BSc/BEd (Science) degrees from Universities or any other relevant degrees.

Candidates with a Bachelor of Science or Education degree in Physics and Mathematics from recognized institutions or any other relevant degree from a recognised institution.

DEPARTMENT OF ENVIRONMENTAL AND BIOSYSTEMS ENGINEERING

INTRODUCTION

Biosystems Engineers are expected to provide efficient engineering solutions to technical problems involving living things and the natural environment. Students receive a broad exposure to engineering through courses such as mechanics, materials, thermodynamics, electronics and circuits, transport processes, unit operations, instrumentation and design.

They study “life” sciences and ways biological systems interact with the environment. This diverse background makes them capable of understanding the engineering aspects of projects and enables them to operate well through a multidisciplinary approach. The programme includes biosystems and other biology-based production systems, the environment, food and processing systems in agro-industries, energy, machinery systems and structures.

Our BSc. Programme is structured to be completed in five years. The first and second year are dedicated to learning applied and engineering sciences. Third year covers the theory of Biosystems Engineering. The fourth year introduces the student to the applications of Biosystems Engineering. The fifth year gives the students an opportunity to specialize in one branch of Biosystems Engineering.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOSYSTEMS ENGINEERING.

The curriculum in the Department of Environmental and Biosystems Engineering was revised recently so as to take into account recent scientific and technological advances in the education and training of engineers.

The current option of admitting students to the department produces a broad based and versatile graduate who can adapt to rapid technological changes. The department offers a Bachelor of Science (BSc.) in Biosystems Engineering degree programme with options in the following areas:

- **Environmental Engineering**

The application of the science and art of engineering to the design and management of natural resources of air, soil and water in order to minimize the adverse impact of human activities and other processes on the natural environment. It involves waste water management and air pollution control, recycling of wastes, water

systems engineering, hygiene and sanitation, environmental impact assessment of development projects.

- **Irrigation and Water Resources Engineering**

The application of the science and art of engineering to the planning, design and management of systems for control and utilization of water resources for industrial, amenity, domestic and livestock consumption, irrigation and the drainage of excess water from fields.

- **Power and Machinery Engineering**

The design and management of energy systems, machinery and implements for production and processing in agriculture, forestry, amenity, aquaculture and related biology based production and processing systems.

- **Process and Food Engineering**

The application of the science and art of engineering to the mechanical, chemical, thermal and other physical processes involved in the primary and secondary processing of food, fibre and other raw materials from agriculture and forestry and land.

- **Structures Engineering**

The planning, design and management of buildings and other structures for human habitation, production, storage and processing of biology based products from agriculture, forestry, food and other bioprocess industries and water and the environment in general.

The revised BSc. (Eng.) programme will produce graduates who are able to pursue careers in industry, research and education.

Their education will include in depth scientific exposition of engineering principles and concepts and will focus on the ‘science of engineering’. The graduates will also be exposed to relevant practical work so that they may become hands-on engineers.

BACHELOR OF SCIENCE IN BIOSYSTEMS ENGINEERING

This programme will lead to award of the degree of Bachelor of Science in Biosystems Engineering.

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF SCIENCE IN ENVIRONMENTAL AND BIOSYSTEMS ENGINEERING

1.0 INTRODUCTION

The syllabus takes into account recent scientific and technical advances in the education and training of engineers. It is relevant and broad based in line with the requirements of the engineering profession. To improve on its utility, the programme has been and will continue to be re-aligned to be consistent with the changing needs of the society. It has been developed from a programme of five options to the current five distinct areas of study: Environmental Engineering, Irrigation and Water Resource Engineering, Power and Machinery Engineering, Process and Food Engineering and Structures Engineering, each one addressing a unique engineering need in the society. The programme is targeted towards those graduates who would like to practice at a higher level in industry, research and education.

The broad objective of the programme is to give additional knowledge and necessary skills to the engineering graduates to enable them practice at a higher level in industry, research and education.

2.0 ENTRY REQUIREMENTS

- 2.1 The common regulations for Masters Degree in all Faculties and those of the School of Engineering, of the University of Nairobi, shall apply.
- 2.2 The following shall be eligible for admission:
 - 2.2.1 Holders of Bachelor of Science in Engineering with at least upper second-class honours Degree.
 - 2.2.2 Holders of lower second-class honours Degree in Engineering with either a relevant post-graduate diploma or at least two years relevant experience.
 - 2.2.3 Holders of pass Degree in Engineering with either a relevant post-graduate diploma or three years relevant experience.

DOCTOR OF PHILOSOPHY DEGREE IN THE DEPARTMENT OF ENVIRONMENTAL AND BIOSYSTEMS ENGINEERING

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/ Schools of the University shall apply.

Admission into the programmes shall be open to holders of Masters of Science degree in the respective field of Engineering 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.

STAFF LIST

Chairman of Department

Mbuge, D.O., BSc, (Egerton), MSc, PhD, (Nairobi), MKSAE, MKRA

Associate Professor:

Biamah, E.K., Dip.Agric.Eng., (Egerton), BSc, MSc, (Oklahoma), PhD, (Wageningen), MIEK, MASAE, MWASWE

Gitau, A.N., BSc, (Egerton), MSc, PhD, (Nairobi), REng.MIEK, MKENDAT, MKSAE

Senior Lecturer

Mutua, J.M., BSc, MSc, (Nairobi), REng, FIEK, MKSAE

Mutuli, D.A., BSc, (Nairobi), MPhil, (Newcastle Upon Tyne), REng, MIEK, MASAE, MIAgrE, MCE, (Britain)

Obiero, J.P.O., BSc, (Egerton), MSc, PhD, (Nairobi), MKeSEBAE, MUONAA

Omuto, C.T., BSc, (Egerton), MSc, PhD, (Nairobi)

Lecturer:
Agullo, J.O., BSc, MSc, (Nairobi) Inima, A.K., BSc, (Nairobi), MSc, (Dar-as-Salaam), MKSAE, MALIN, MIAH, MKMS Ondieki, S.C, Dip Agric. Eng. BSc, (Egergon), MSc, (Dar-as-Salaam), MKeSEBAE
Graduate Assistants:
Kimani, P.K., BSc, MSc, (Nairobi) Ndunge, N.B., BSc, MSc, (Nairobi)
Principal Technologist:
Odhiambo, J.O., Dip Agric. Eng. BSc, (Egerton), MSc, (Nairobi), MKSAE, MKRA

DEPARTMENT OF CIVIL AND CONSTRUCTION ENGINEERING

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

1.0 INTRODUCTION

The Civil Engineering curriculum is planned to provide a sound professional education. After completing their first-year courses, students are offered courses in applied mechanics, hydraulics, surveying, materials, structures, engineering management, geotechnical engineering, transportation engineering and engineering and environmental health and water resources engineering. Courses in mathematics, computer programming and non-technical subjects are also obligatory in the programme. Throughout their studies, students are encouraged to take part in applied and theoretical research, as well as in practical professional training.

Each semester courses, except for structural design, shall have a total of 45 contact hours including lectures and tutorials and shall comprise one course unit. There shall be a practical assignment term lasting for eight weeks at the end of the third year of study.

The undergraduate students shall complete the following course units.

First year	13	Fourth year	16
Second year	14	Fifth year	14
Third year	15		

In order to cover this syllabus, service courses shall be provided by the following departments:

Mathematics	-	FCE 161/2, FCE 163/4, FCE 261/2, FCE 361/2, FCE 461, FCE 562
Physics:	-	FCE 131/2
Chemistry:	-	FCE 181/2
Geology:	-	FCE 112
Economics:	-	FCE 271
Surveying:	-	FCE 251, FCE 351, FCE 552
Institute of Computer Science	-	FCE 165, FCE 266, FCE 566

ENTRY REQUIREMENTS

i) KCSE Candidates

In addition to satisfying the University minimum entrance requirements, a candidate must also have attained a minimum grade of C+ at the KCSE examination in the following subject clusters:

- English or Kiswahili
- Mathematics
- Physics and Chemistry or Physical Science or Biological Sciences
Group III: - Geography
- Any one subject in the group
Group IV: - Art and Design - Aviation Technology
- Agriculture - Computer Studies

ii) 'A' Level Candidate

Candidates must have attained two principal passes in Mathematics and any one of the following subjects:-

- Physics
- Chemistry
- Geography
- Economics
- Art and Design

and a Credit pass in English Language at KCE or equivalent examination.

iii) Diploma Candidates

Candidates must have attained the KNEC Diploma in Architecture, Building Construction or related fields with a credit pass or equivalent.

iv) Degree Holders

Candidates must have attained a degree from a reorganized university in:-

- Land Economics
 - Design
 - Surveying
 - Building Economics
 - Civil Engineering
 - Urban and Regional Planning
- or any other relevant degree

MASTER OF SCIENCE IN CIVIL ENGINEERING

1.0 INTRODUCTION

The course is intended for engineers with suitable qualifications and/or professional experience who wish to study further or expand their range of expertise in specified field of civil engineering.

The options offered are tailored to the requirements of the civil engineering industry. The course contents will enable participants to specialize in any of the five following options. Not all these options will be available in any one year.

2.0 ENTRY REQUIREMENTS

The following shall be eligible for admission into the programme:-

- i) A holder of a Bachelor of Science Degree with at least Upper Second class Honours in Civil Engineering of the University of Nairobi or a university recognized by senate.
- ii) Holders of Lower Second Class Honours degree in Civil Engineering with a relevant postgraduate diploma or two years relevant experience.
- iii) Holders of pass degree with either relevant post graduate diploma or three years relevant experience.
- iv) A holder of a Bachelor of Science Degree of the University of Nairobi in a discipline closely related to the selected MSc. option who has in addition relevant practical experience to be assessed by a departmental panel.
- v) A holder of similar qualifications from other institutions recognized by the Senate as equivalent to a Bachelor of Science degree of the University of Nairobi.

DOCTOR OF PHILOSOPHY IN CIVIL ENGINEERING

1.0 INTRODUCTION

The course is intended for engineers with suitable qualifications and/or professional experience who wish to contribute to new knowledge or expand their range of expertise in specified field of civil engineering.

The research are tailored to the requirements of the civil engineering industry. The course will enable participants to specialize in any of the five thematic areas for civil engineering.

2.0 ENTRY REQUIREMENTS

The following shall be eligible for admission into the programme:-

- i) A holder of a Master of Science Degree in Civil Engineering of the University of Nairobi or a university recognized by senate.
- ii) A holder of similar qualifications from other institutions recognized by the Senate as equivalent to a Master of Science degree of the University of Nairobi.

STAFF IST

Chairman of Department:

Dulo, S.O., BSc, (Nairobi), MSc, (Birmingham), PhD, (Nairobi), FHSK, GMIEK

Professor:

Gichaga, F.J., MBS, EBS, BSc, (E. Africa), MSc, PhD, (Nairobi), FIEK, REng, CEng
Mwea, S.K., BSc, (Nairobi), MSc, (Birmingham), PhD, (Nairobi), MIEK, REng
Njoroge, B.N.K., BSc, (Nairobi), MSc, (Newcastle Upon Tyne), PhD, (Duke), MIEK,
R. Eng.
Odira, P.M.A, BSc, (Nairobi), MSc, PhD, (Tampere), MIEK, REng

Associate Professor:

Nyangeri, E.N., BSc, (Nairobi), MSc, PhD, (Tampere), MIEK, MASCE, REng
Abuodha, S.O., BSc, (Nairobi), MSc, PhD, (Manchester), MIEK, REng.

Senior Lecturer:

Dulo, S.O., BSc, (Nairobi), MSc, (Birmingham), PhD, (Nairobi), FHSK, GMIEK
Maimba, P.P., BSc, (CNA), MPhil, (Newcastle Upon Tyne), MIEK, REng

Mumenya, S.W., BSc, (Nairobi), MSc.Eng, (City University, London), PhD, (Cape Town), MIEK, REng

Ndiba, P.K., BSc, MSc, (Nairobi), PhD, (New Jersey), REng

Ngari, S.K., BSc, (Nairobi), MSc, (Tampere), MIEK R. Eng,

Oonge, Z.N.I., BSc, (Nairobi), MSc, PhD, (Iowa), MIEK, REng

Wanjau, D.M., BSc, (Nairobi), MSc, (Newcastle Upon Tyne), FIEK, MASCE, REng

Osano, S.N., BSc, (Nairobi), MSc, (Portsmouth), PhD, (Nairobi)

Mwero, J., BSc, MSc, PhD, (Nairobi)

Lecturer:

Goro, E.C., BSc, MSc, (Nairobi), MIEK, REng

Kipkoros, K., BSc, MSc, (Delft)

Matheri, P.G., BSc, MSc, (Nairobi), MIEK, REng

Mutua, S.K., BSc, MSc, (Nairobi)

Wokabi, M.G., BSc, PGDE, (Nairobi), MEng (Canterbury)

Tutorial Fellow:

Okoya, B., BSc, MSc, (Nairobi), MIEK, PEng

Hayowa, H., BSc, (Nairobi), MSc, (Dresden), MIEK, PEng

Waweru, N. M., BSc, MSc, (Suzhou, China), GEBK, GEng

Oyaro, D.K, BSc, MSc, (Hannover, Germany), MIEK, REng

Chief Technologist:

Jimbo Kaunda K., HN Dip.(Kenya Polytechnic), BSc.(JKUAT), GIEK, GEBK, GEng

DEPARTMENT OF ELECTRICAL AND INFORMATION ENGINEERING

BACHELOR OF SCIENCE IN ELECTRICAL AND ELECTRONIC ENGINEERING

1.0 INTRODUCTION

Each semester course shall have a total of 45 contact hours including lectures and tutorials and shall comprise one course unit. Laboratories shall have 60 hours per semester and shall comprise one course unit, except in the first year of study when they shall have 45 hours.

There shall be a practical assignment term lasting for eight weeks at the end of the third year of study. There shall also be industrial attachment of undergraduate students during the long vacation of the fourth year of study.

The undergraduate students shall complete the following course units (including laboratories):

First year	14
Second year	16
Third year	16
Fourth year	16
Fifth year	<u>14</u>
Total	<u>76</u>

It is assumed that the courses “Elements of Philosophy, Development Process” and “Communication Skills” shall be designed and taught by the Board of Common Undergraduate studies.

In order to cover this syllabus, service courses shall be provided by the following Departments.

Civil Engineering	- FEE 252
Mechanical Engineering	- FEE 241/2, FEE 251, FEE 261/2, FEE 361
Mathematics	- FEE 111/2, FEE 121/2, FEE 271/2, FEE 471/2, FEE 571
Physics	- FEE 101/2

In interpreting the course codes, after FEE the first integer denotes the year of study. The second integer denotes as far as is possible, the subject area while the last integer denotes the semester in which the course is taught; 1 for the first and 12

for the second semester. Where the last integer is 0 it means that this is a course which is done throughout the two semesters such as the Engineering Project in the fifth year of study

MASTER OF SCIENCE IN ELECTRICAL AND ELECTRONIC ENGINEERING

1.0 INTRODUCTION

The course offers opportunities to candidates with suitable qualifications who want to pursue further studies in electrical and electronic engineering. The course has taken into account the latest developments in this field of engineering and the national requirements. The course is offered in two fields; Electrical and Electronic Engineering. Options in these two fields have been carefully grouped into clusters, which define areas of further specialisation.

2.0 ENTRY REQUIREMENTS

The following shall be eligible for admission into the programme:

- 2.1. A holder of at least a second class upper division degree of Bachelor of Science in Electrical Engineering of the University of Nairobi.
- 2.2. A holder of a qualification in Electrical Engineering or Electronic Engineering, awarded by an institution recognised by the Senate of the University of Nairobi as equivalent to the above qualification of the University of Nairobi.
- 2.3. The common regulations for the Masters degree in all faculties shall be applicable.

STAFF LIST

Chairman of Department

Kamucha, G.N., BTech, (Moi), MSc, (Aberdeen), PhD, (Kassel), MIEEE

Associate Professors

Mwangi, E.M., BSc Eng, MSc, (Nairobi), PhD, (Loughborough), MIEE, CEng.

Oduol, V.K., B.Eng, MEng, PhD, (McGill), MIEEE

Mbuthia, J.M., BSc, (Nairobi), MSc, D.I.C., PhD, (UMIST), REng

Absaloms, H.O., BSc (Nairobi), MEng, (UTS), PhD, (Kanagawa), SMIEEE

Senior Lecturers

Kamucha, G.N., BTech, (Moi), MSc, (Aberdeen), PhD, (Kassel), MIEEE

Mwema, W.N., BTech, (Moi), MSc, (Nairobi), Dr-Ing., (Kassel), MIEEE

Lecturers

Ombura, C.O., B.E, (Mangalore), ME, (IIT-Delhi)

Kyalo, V., BSc, (Nairobi), MEng, (Eindhoven), MIEEE, REng

Ogaba, S.L., BSc, (Makerere), MSc, (Loughborough)

Akuon, P.O., BSc, (Nairobi), MSc, PhD, (Kwazulu-Natal)

Musau, P.M., BSc, MSc, PhD, (Nairobi)

Nyete, A.M., BSc, (Nairobi), MSc, PhD, (Kwazulu-Natal)

Tutorial Fellows

Ali, S.A., BSc, (Nairobi), MSc, (Pretoria), PhD, (Nairobi, ongoing)

Ondeng', O.R., BSc, MSc, PhD, (Nairobi, ongoing)

Segera, D.R., BSc, MSc, PhD, (Nairobi, ongoing)

Graduate Assistants

Otieno, G.O., BSc, MSc, (Nairobi), PhD, (Kwazulu-Natal, ongoing) (On Study Leave)

Kinyua, W., BSc, MSc, PhD, (Nairobi, ongoing)

Ojwang, B.O., BSc, MSc, (Nairobi, ongoing)

Abdulrahman, F., BSc, MSc, (Nairobi, ongoing)

Chief Technologist

Oloo, T.O., Dip., (TUM), BSc, (Egerton), MBA, (Nairobi, ongoing)

Wahome, A.W., HND, (TUK), MSc, (Egerton)

Waweru, C.N., Dip, HND, BPhil, (TUK), MSc, (KU, ongoing)

Munyole, B.W., Dip, HND, (TUK), BSc, (Dekut, ongoing)

Senior Technologist

Muraba, D.N., HND, (TUK)

Philip, C.K., Dip, (RTI), HND, (RTI), BPhil, (TUK), MSc, (Nairobi, ongoing)

Edwin, N., Dip, (Muranga), HND, BPhil, (TUK)

Rukeny, E.K.R., Dip, (Eldoret), HND, (TUK), BSc, (Dekut, ongoing)

Kinuu, J.K., Dip, (Kiambu), HND, (TUK)

Ngugi, W.W., Dip, HND, BPhil, (TUK), MSc, (Murang'a, ongoing)

Technologists

Wanyoike, M.W., Dip, (TUM), BSc, (Dekut, ongoing)

Meshami, W.S., Dip, (Kenya Navy), Dip (Defence FTC), 2014, BSc, (Dekut, ongoing)

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

1.0 INTRODUCTION

The BSc. degree programme in Mechanical Engineering is a 5-year programme that is structured to emphasize both engineering theory and practical skills. These skills should enable students to solve practical problems and analyse different situations by converting concepts into reliable and cost-effective designs of devices and processes.

The programme includes a practical assignment term lasting for eight weeks at the end of the third year of study and industrial attachment of at least eight weeks at the end of fourth year of study.

The undergraduate students shall complete the following course units.

First year	13	Fourth year	14
Second year	14	Fifth year	12
Third year	16		

Service courses are provided by other Departments as follows:

Mathematics	- FME 171/2, FME 173/4, FME 271/2, FME 371/2, FME 471/2
Chemistry	- FME 151/2
Physics	- FME 111/2
School of Computer Science	- FME 182, FME 281
Management Science	- FME 543, FME 545
Electrical & Electronic Engineering	- FME 291, FME 391, FME 492
Management Science	- FME 343, FME543
School of Law	- FME 344
Board of Common Undergraduate Courses	- FME 165, FME 168, FME 169

In interpreting the course codes, after FME the first integer denotes the year of study. The second integer denotes the subject area (*as much as is possible*) while the last integer denotes the semester in which the course is taught; odd for the first semester and even for the second semester.

MASTER OF SCIENCE DEGREE IN MECHANICAL ENGINEERING

1.0 INTRODUCTION

The course is intended for engineers with suitable qualifications and/or professional experience who wish to study further or expand their range of expertise. The course contents will enable students to specialize in any one of the following options:

- Advanced Thermo-Fluids Engineering
- Advanced Applied Mechanics
- Industrial Engineering
- Materials Science and Metallurgical Engineering

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

The degree shall be designated from the following list:-

- MSc. Mechanical Engineering - Advanced Thermo-Fluids Engineering
- MSc. Mechanical Engineering - Advanced Applied Mechanics
- MSc. Mechanical Engineering - Industrial Engineering
- MSc. Mechanical Engineering - Materials Science & Metallurgical Engineering

The course structure	- By coursework and thesis
Coursework and examinations	- 2 Semester of 15 weeks each
Research Project and Examination of thesis	- 12 months

2.0 ENTRY REQUIREMENTS

The following shall be eligible for admission into the programme:-

- A holder of a Bachelor of Science Degree with at least Upper Second class Honours in Mechanical Engineering of the University of Nairobi or a university recognized by senate.
- Holders of Lower Second Class Honours degree in Mechanical Engineering with a relevant postgraduate diploma or two years relevant experience.
- Holders of pass degree with either relevant post graduate diploma or three years relevant experience.

- iv) A holder of a Bachelor of Science Degree of the University of Nairobi in a discipline closely related to the selected MSc. option who has in addition relevant practical experience to be assessed by a departmental panel.
- v) A holder of similar qualifications from other institutions recognized by the University of Nairobi Senate as equivalent to a Bachelor of Science degree of the University of Nairobi.

DOCTOR OF PHILOSOPHY DEGREE IN MECHANICAL ENGINEERING

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 degree at the University of Nairobi shall apply.

Admission into the programmes shall be open to holders of Masters of Science degree in the respective field of Engineering 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 on approval by the University of Nairobi Senate.

The duration of the degree programme is 3 academic years (6 Semesters).

BACHELOR OF SCIENCE IN PETROLEUM ENGINEERING

1.0 INTRODUCTION

In 2014, the Ministry of Energy of the Republic of Kenya gave a grant of fifty six million shillings (Kes 56,000,000) to the School of Engineering to support the establishment of a Department of Petroleum Engineering at the University of Nairobi. These funds were advanced to be used for the recruitment of experts in Petroleum Engineering, the procurement of laboratory equipment and furniture for the department.

The Petroleum Engineering undergraduate program at the University of Nairobi is primarily concerned with the economic extraction of oil, gas, and other natural resources from the earth. Producing oil and gas is accomplished through the design, drilling and operation of wells and well systems, and the integrated management of the underground reservoirs in which the resources are found. A minor emphasis of the petroleum engineering program at the University of Nairobi will be the study of transportation of crude and refined petroleum products as well as downstream activities such as storage and distribution of petroleum products.

The curriculum is tailored to give the students a solid scientific foundation from the start, where in the first year of study, courses in mathematics, physics, chemistry, computer programming are taught as well as other courses in the humanities such as communication skills, philosophy and HIV/AIDS. These courses are common to other disciplines of engineering such as Mechanical and Civil Engineering.

From the second and third year of the program are used to prepared the students in the engineering sciences such as Geology, Solid and Structural Mechanics, Fluid Mechanics, Thermodynamics and Heat Transfer, Mechanics of Machines, Systems and Controls, Engineering Communication as well as Mathematics.

In the Penultimate and Ultimate years of study the students study specialised courses in reservoir engineering, well drilling technology and the evaluation of petroleum formations. In these senior years, students also are expected study broad subjects such as engineering management. In the final year of study, students work on an engineering project that could be experimental or design-based and this exposes them to the design process from concept to the final product, emphasizing effective communication and presentation skills.

3.0 ENTRY REQUIREMENTS

Candidates shall be eligible for admission into the Bachelor of Science degree in the School of Engineering in the following categories.

3.1 KCSE Candidates

The basic admission requirement shall be the minimum requirement set for entry into Public Universities which is a mean grade of at least C+ in Kenya Certificate of Secondary Education (KCSE). In addition, candidates shall have obtained at least C+ in each of the four cluster subjects from any of the following alternative clusters. However, a cut-off grade higher than C+ in each cluster subject shall be preferred if limitations of the number of places available for each degree programme versus the number of qualified candidates so demand. The said cut-off grades shall be determined and implemented by the School Board.

Alternative A:

Physics	Biology or Geography or
Chemistry	any Group IV Subject
Mathematics	

Alternative B:

Physical Sciences	Geography or any
Biological Sciences	Group IV Subject
Mathematics	

Group IV Subjects:

- Home Science	- Building Construction
- Art and Design	- Power Mechanics
- Agriculture	- Electricity
- Woodwork	- Drawing and Design
- Metalwork	- Aviation Technology

3.1.1 A-Level Candidates

A-level candidates with 2 principals in Mathematics and Physics and a subsidiary level pass in Chemistry with Credit pass in English at O level

3.1.3 KNEC Higher National Diploma (HND) or Equivalent

Candidates with Higher National Diploma in the following broad areas of study:

- Agricultural Engineering
- Mechanical engineering
- Civil engineering
- Geospatial Engineering
- Electrical engineering
- Any other approved subject area.

3.1.4 Ordinary KNEC Diploma or Equivalent (with credit pass)

- Agricultural Engineering
- Mechanical engineering

- Civil engineering
- Geospatial Engineering
- Electrical engineering
- Any other approved subject area.

3.1.5 Diploma from Science/Technical Teacher Training Colleges

Candidates with a Diploma in Mathematics and Physics from recognized teacher training colleges.

3.1.6 BSc/BEd (Science) Degrees from Universities or any other Relevant Degrees

Candidates with a Bachelor of Science in Geology/ geological petro-science, chemistry or Physics or Education degree in Physics or Mathematics from recognized institutions or any other relevant degree from a recognized institution.

14.0 COURSES OFFERED IN THE PROGRAMME**FIRST YEAR**

FPE 111	Physics I
FPE 112	Physics II
FPE 151	Chemistry I
FPE 152	Chemistry II
FPE 161	Engineering Drawing I (Manual Drawing)
FPE 162	Engineering Drawing II (Computer Aided Drawing)
FPE 165	Communication Skills (CCS004)
FPE 168	Elements of Philosophy (CCS008)
FPE 169	Emerging Health & Social Challenges HIV/AIDS (CCS 010)
FPE 171	Calculus I

FPE 172	Calculus II
FPE 173	Engineering Mechanics I (Statics)
FPE 174	Engineering Mechanics II (Dynamics)
FPE 182	Computer Science I

SECOND YEAR

FPE 201	Introduction to Physical geography & Geology
FPE 202	Introduction to Petroleum Engineering
FPE 203	Introduction to Geophysics
FPE 211	Solid and Structural Mechanics I
FPE 212	Solid and Structural Mechanics II
FPE 221	Thermodynamics I
FPE 222	Thermodynamics II
FPE 231	Fluid Mechanics I
FPE 232	Fluid Mechanics II
FPE 242	Non Destructive Testing (NDT)
FPE 251	Engineering materials science I
FPE 262	Sustainable Development
FPE 271	Calculus III
FPE 272	Linear Algebra
FPE 281	Computer Science II
FPE 292	Electrical Circuits

THIRD YEAR

FPE 311	Engineering Mechanics III (Dynamics)
FPE 322	Petroleum Drilling Systems
FPE 324	Reservoir Fluids
FPE 331	Formation Evaluation
FPE 332	Process Principles

FPE 342	Exploration Geophysics
FPE 343	Management & Business for Engineers
FPE 344	Law for Engineers
FPE 351	Engineering Materials Science II
FPE 353	Reservoir Petro-physics
FPE 362	Well Performance
FPE 371	Calculus IV
FPE 372	Mathematical Methods
FPE 391	Analogue & Digital Electronics
FPE 399	Petroleum Engineering Field Assignment
8 weeks = 320 Hours (Equivalent to 110 hours of Instruction or 7 credit hours)	
At the end of 3rd Year, students proceed for Practical Field Assignment for a period of 8 weeks.	
FOURTH YEAR	
FPE 412	Drilling Engineering
FPE 413	Well testing and production logging
FPE 414	Petroleum Chemistry
FPE 421	Heat Transfer
FPE 431	Production Engineering
FPE 432	Reservoir Models
FPE 444	Engineering Project Management
FPE 452	Entrepreneurship for Engineers
FPE 461	Integrated Reservoir Design I
FPE 462	Integrated Reservoir Design II
FPE 471	Statistics for Engineers
FPE 472	Numerical Methods for Engineers
FPE 491	Electrical Machines (DC & AC)
FPE 492	Instrumentation & Control

Industrial Attachment	
FPE 499 – Industrial Attachment	
At the end of 4th Year, students proceed for Industrial Attachment for a period of 12 weeks.	
FIFTH YEAR	
FPE 503	Advanced Production Engineering
FPE 511	Advanced Drilling Engineering
FPE 521	Petroleum Production Systems
FPE 522	Petroleum Refining
FPE 531	Reservoir Simulation I
FPE 532	Reservoir Simulation II
FPE 542	Downstream Operations
FPE 543	Hydrocarbon Phase Behaviour
FPE 544	Production Enhancement
FPE 551	Petroleum Economics
FPE 561	Engineering Project I
FPE 562	Engineering Project II
FPE 5XX	Elective I
FPE 5YY	Elective II
Elective Courses	
To offer a level of specialisation, during the 5th year of study, students, with the guidance of the Class Tutor, can select any two courses from the list below provided the selected course is on offer.	
FPE 506	Natural Gas Engineering
FPE 508	Rock Mechanics
FPE 512	Fundamentals of Programmable Logic Controllers

FPE 513	Hydraulic & Pneumatic Control Systems
FPE 514	Reliability Engineering
FPE 515	Corrosion Engineering
FPE 552	Petroleum Project Economics

STAFF LIST**Chairman of Department**

Mbuya, T.O., BSc, MSc, (Nairobi), PhD, (Southampton)
 Coordinator of Petroleum Engineering
 Njoroge, D.K. BSc, MSc, PhD, (Nairobi), REng

Professor

Ogot, M.M., BSE, (Princeton), MSc, (Penn State), MBA (Rutgers), PhD, (Penn State), PhD, (Nairobi), Current DVC RIE (Nairobi)
 Rading, G.O., BSc, MSc, (Nairobi), PhD, (Alabama), REng
 Mutuli, S.M., BSc, MSc, (Nairobi), PhD, (Poitiers, France)

Associate Professor

Misoi, G.K., BSc, PhD, (Nairobi), (*On appointment Leave*)
 Nyangaya, J.A., BSc, (Nairobi), MSc, (Leeds), PhD, (I.I.T. Delhi), REng
 Ogola, J.M., BSc, (Nairobi), MEng, (Sierra Leone), PhD, (Nairobi), REng, MIEK
 Aganda, A.A., BSc, MSc, (Nairobi), PhD, (Leeds)
 Jama, H.H., BSc, MSc, (Royal Melbourne I.T.), PhD, (Monash)

Lecturer

Munyasi, D.M., BSc, MSc, PhD (Nairobi), REng
 Odhiambo, E.A., BSc, (Nairobi), MPhil, (QMUL), PhD (NTUST)
 Gachigi, K, BSc, (Bath, UK), MSc, PhD, (Penn. State) (*Leave of Absence*)
 Kabugo, S.M., BSc, MSc, (Nairobi)
 Misango, Q.B.O., BSc, MSc, (Nairobi)
 Mwaka, J.M., BSc, (Nairobi), MSc, (Manitoba), REng
 Mbithi, F., BSc, (Nairobi), MSc (Denver), PhD, *Study Leave*

Tutorial Fellows

Kimilu, R.K., BSc, MSc, (Nairobi), PhD, (NTUST)
 Kivindu, R.M., BSc, MSc, (Nairobi), PhD, (NTUST)
 Akhusama, N.E., BSc (Nairobi), MSc (Nairobi)
 Musyoka, E.K., BSc, MSc, (Nairobi), MSc, (JKUAT)
 Kabeyi, M.J., BSc, MSc (Moi)
 Mohamud, R.I., BSc (Moi), MSc, (Aberdeen)

Graduate Assistants

Jack, O.N., BSc, (Nairobi)
 Velima, K.O., BSc, (Nairobi)

DEPARTMENT OF GEOSPATIAL AND SPACE TECHNOLOGY

REGULATIONS AND SYLLABUS FOR BACHELOR OF SCIENCE IN GEOSPATIAL ENGINEERING

1.0 INTRODUCTION

Geospatial Engineering is the art and science of collecting, storing, analyzing, managing and disseminating geospatial information to facilitate rational and optimum use of land resources.

Geospatial Engineering grew out of the traditional discipline of Land Surveying which concerned itself with measurement and mapping of land. Why engineering? Since, the 1980s, when digital mapping came into the public domain, all the traditional branches of surveying, such as geodetic, topographical, cadastral, engineering, etc collapsed into the design, construction and maintenance of a geospatial database. This fits in well with the definition of engineering as the design, construction and maintenance of a product, the product, in this case, being the geospatial database.

With the broadening of applications and growth in technology, Geospatial Engineering now includes analysis of deformation of engineering structures, industrial metrology, analysis of earth deformation due to geodynamic phenomena, and monitoring of satellite orbits within the broad framework of space science and technology. It also extends to the analysis

and integration of multi-dimensional geospatial phenomena to facilitate informed decision making by various professionals.

The discipline falls under the category of Architecture and Town Planning (0731) of the UNESCO Standards Classification of Education and Training (ISCED-F, 2013).

The Bachelor of Science programme in Geospatial Engineering (hereafter referred to as 'the programme') is administered by the Department of Geospatial and Space Technology in the School of Engineering, within the College of Architecture and Engineering of the University of Nairobi.

2.0 ENTRY REQUIREMENTS

Applicants must have obtained the minimum University of Nairobi and School of Engineering general admission requirements. They must have at least one of the following qualifications

Minimum Admission Requirements

- i) A minimum of KCSE Mean Grade C+ with C+ in Mathematics, Physics, Geography/Biology/Chemistry.
- ii) A minimum KCSE Mean Grade C or KCE Division III plus ordinary/Higher Diploma in Land Surveying / Cartography/ Photogrammetry.
- iii) KACE or IGSCE/GCE – A-level or equivalent with 2 principal passes in Mathematics and Geography.
- iv) Conduct research for the advancement of knowledge in Geospatial Engineering.

3.0 COURSE UNITS OFFERED

YEAR 1	
Semester 1	
Code	Name
FGE 101	Introduction to Engineering
FGE 171	Pure Mathematics A
FGE 173	Applied Mathematics A
FGE 175	Physics A
FGE 177	Informatics A
CCS 010	HIV/AIDS
CCS 001	Communication Skills
Semester 2	
FGE 102	Introduction to Geospatial Engineering
FGE 162	Earth Science
FGE 172	Pure Mathematics B
FGE 174	Applied Mathematics B
FGE 176	Physics B
FGE 178	Informatics B
FGE 182	Elements of Economics
YEAR 2	
Semester 1	
FGE 231	Geospatial Measurement Techniques
FGE 241	Cartographics
FGE 261	Electrical Technology
FGE 271	Engineering Mathematics IA
FGE 273	Geophysics
FGE 275	Geometry
FGE 277	Computer Programming

Semester 2	
FGE 232	Topometry
FGE 242	Cartography
FGE 262	Digital Electronics and Microprocessors
FGE 264	Communications and Signal Processing
FGE 272	Engineering Mathematics IB
FGE 276	Geospatial Statistics
FGE 278	Computer Graphics
Semester 3	
FGE 299	Practical Project (8 weeks)
YEAR 3	
Semester 1	
FGE 311	Introduction to Geodesy
FGE 341	Photogrammetry IA
FGE 345	Remote sensing Systems
FGE 347	Geo Information Systems A
FGE 349	Geospatial Surface Modelling
FGE 371	Engineering Mathematics IIA
FGE 373	Numerical Methods
Semester 2	
FGE 302	Adjustment Theory
FGE 322	Geospatial Positioning Techniques
FGE 342	Photogrammetry I B
FGE 344	Digital Cartography
FGE 346	Digital Image Processing
FGE 348	Geo Information Systems B
FGE 372	Engineering Mathematics II B

Semester 3	
FGE 399	Practical Project (8 weeks)
YEAR 4	
Semester 1	
FGE 421	Geospatial Reference Systems
FGE 431	Engineering Surveying A
FGE 441	Photogrammetry IIA
FGE 447	Remote Sensing Applications
FGE 433	Hydrographic Mapping
FGE 461	Geotechnical and Foundation Engineering
FGE 463	Water & Environmental Engineering
Semester 2	
FGE 432	Engineering Surveying B
FGE 442	Photogrammetry IIB
FGE 444	Digital Photogrammetry
FGE 452	Cadastral Surveying
FGE 462	Highway and Transportation Engineering
FGE 464	Structural and Deformation Engineering
FGE 466	Spatial Planning and Design
Semester 3	
FGE 400	Geospatial Engineering Camp (2 weeks)
FGE 434	Hydrographic Mapping Project (1 week)
FGE 499	Industrial attachment (8 weeks)

YEAR 5	
Semester 1	
FGE 541	Land Registration Systems
FGE 583	Principles of Management
FGE 591	Project
ELECTIVES	
1) GEODESY AND GEODYNAMICS	
FGE 511	Physical Geodesy
FGE 512	Geodynamics
FGE 514	Spherical Astronomy
FGE 516	Map Projections
FGE 517	Time and Timing
2) POSITIONING AND NAVIGATION	
FGE 521	Satellite Positioning Systems
FGE 523	Navigation Systems
FGE 524	Vehicle location and Navigation
FGE 525	Telemetry and Data Communication
FGE 526	Marine Positioning and Cadastre
3) TOPOMETRY AND MEASUREMENT SYSTEMS	
FGE 531	Medical Imaging and Topometry
FGE 532	Precision and Industrial Metrology
FGE 533	Mining and Tunnel Surveying
FGE 536	Laser Technology
FGE 537	Structural Deformation Analysis
4) GEOINFORMATICS AND VISUALIZATION	
FGE 542	Cartographic Animation
FGE 543	Close-range Imaging Systems

FGE 545	Spatial Data Mining
FGE 547	Digital Terrain Modelling
FGE 548	Web-Based Mapping
5) LAND AND INFRASTRUCTURE MANAGEMENT	
FGE 551	Land Administration and Management
FGE 552	Land Information Systems
FGE 553	Land Tenure Systems
FGE 554	Facility and Infrastructure Management
FGE 561	Environmental Planning and Management
Semester 2	
FGE 504	Professional Practice
FGE 544	Geospatial Data Infrastructure
FGE 546	Cartographic Map Design and Production
FGE 556	Land Law
FGE 582	Management of Engineering Systems
FGE 592	Project

REGULATIONS AND SYLLABUS FOR THE MASTER OF SCIENCE IN SURVEYING

1.0 INTRODUCTION

Over the last decade or so, there has been increasing diversity and sophistication in the discipline of surveying and mapping sciences. This has resulted in a greater demand for high level manpower in industry, teaching and research. The department has responded to this need by offering a Master of Science degree in Surveying by coursework, examination and thesis.

2.0 ENTRY REQUIREMENTS

The following shall be eligible for admission into the programme:

- A holder of an upper second honours degree of Bachelor of Science in Surveying of the University of Nairobi.
- A holder of similar qualifications from other institutions recognised by the Senate as equivalent to the Bachelor of Science degree in Surveying of the University of Nairobi.

REGULATIONS AND SYLLABUS FOR THE POSTGRADUATE DIPLOMA IN GEOGRAPHIC INFORMATION SYSTEMS

1.0 INTRODUCTION

The proliferation of numerous applications in Geographic Information Systems (GIS) has generated a great demand for well trained personnel, especially in developing countries like Kenya where the GIS industry is still young but growing fast. In response to this demand, and within the realm of Continuous Professional Development (CPD), the Department of Geospatial and Space Technology, University of Nairobi, offered short (certificate) courses in GIS for a while. Experience gained from this CPD programme indicated that most of the professionals currently working in the local GIS industry lack formal GIS training and the required capacity to effectively manage GIS projects. The above factors provide the impetus for launching the proposed Postgraduate Diploma in Geographic Information Systems [P.G. Dip. (GIS)]. This programme is designed to accommodate the diverse interests of professional from different backgrounds currently working or aspiring to work in the GIS industry. This is pertinent especially given the multidisciplinary nature of GIS.

2.0 COURSE OBJECTIVES

- i) Equip students with the relevant skills and knowledge to pursue careers in the GIS industry as GIS practitioners and educators.
- ii) Provide students with comprehensive knowledge of the functionality and applications of GIS technology.
- iii) Expose students to the design and implementation of GIS projects.

3.0 ENTRY REQUIREMENTS

The common regulations for postgraduate studies at the University of Nairobi shall apply.

Candidates for the Postgraduate Diploma in GIS should be holders of a Bachelor's Degree of the University of Nairobi in any geoinformation discipline or equivalent qualifications from institutions recognized by the Senate.

REGULATIONS AND SYLLABUS FOR THE MASTER OF SCIENCE IN GEOGRAPHIC INFORMATION SYSTEMS

1.0 INTRODUCTION

The proliferation of numerous applications in Geographic Information Systems (GIS) has generated a great demand for well trained personnel, especially in developing countries like Kenya where the GIS industry is still young but growing fast. In response to this demand, and within the realm of Continuous Professional Development (CPD), the Department of Surveying, University of Nairobi, has been offering short (certificate) courses in GIS for the last three years. Experience gained from this CPD programme indicates

that most of the professionals currently working in the local GIS industry lack formal GIS training and the required capacity to effectively manage GIS projects. The above factors provide the impetus for launching the proposed Master of Science in Geographic Information Systems [MSc.(GIS)]. This programme is designed to accommodate the diverse interests of professionals from different backgrounds currently working or aspiring to work in the GIS industry. This is pertinent especially given the multidisciplinary nature of GIS.

2.0 COURSE OBJECTIVES

- i) Equip students with the relevant skills and knowledge to pursue careers in the GIS industry as GIS practitioners and educators.
- ii) Provide students with comprehensive knowledge of the functionality and applications of GIS technology.
- iii) Expose students to the design and implementation of GIS projects.
- iv) Equip students with the relevant skills and knowledge to carry out research in GIS.

3.0 ENTRY REQUIREMENTS

The common regulations for the Masters degrees in the University of Nairobi shall apply.

The following shall be eligible for admission:

- a) Holders of a Bachelor's degree in any geoinformation related discipline with at least lower second class honours of the University of Nairobi, or equivalent qualifications from other institutions recognized by the Senate.
- b) Holders of a Bachelor's pass degree with a Postgraduate Diploma in Geographic

Information Systems [PG.Dip.(GIS)] or equivalent qualifications from other institutions recognized by the Senate.

- c) Holders of a Bachelor's pass degree in any geoinformation related discipline and three years experience in GIS.

DOCTOR OF PHILOSOPHY IN GEOGRAPHIC INFORMATION SYSTEMS

1.0 INTRODUCTION

The Doctor of Philosophy programme in Geographic Information Systems offers an opportunity for advanced academic and research work in the ever evolving and dynamic field of Geoinformation. The demand for professionals in the field of Geoinformation is on the increase due to the role location plays in decision making. It is responding to the market need where someone who may have not necessary gone through the traditional Geospatial Engineering program, but have some background in Geoinformation and would wish to advance their knowledge and skills in the field of GIS. The programme therefore aims at preparing students for positions as researchers and policy analysts in the field of Geographic Information Systems.

2.0 ENTRY REQUIREMENTS

The common regulations for the Doctor of Philosophy Degree in the University of Nairobi shall apply. In addition a Master of Science Degree in Geospatial Engineering or related disciplines from the University of Nairobi or any other institution recognized by the University Senate as being of equivalent academic status.

DOCTOR OF PHILOSOPHY IN GEOSPATIAL ENGINEERING

1.0 INTRODUCTION

The discipline of geospatial engineering is experiencing high dynamics due to new technologies and applications that introduce new theoretical and practical challenges. The global nature of the challenges provides opportunities for researchers from around the globe to provide solutions. However, a survey of the international journals/and conferences reveal that the research and application development arena in geospatial disciplines is dominated by researchers from the high-income economies and fewer from low-income economies. This could be attributable to 1) the small-budget allocated to research, 2) minimal industry-academia linkage, and 3) few trained people at the PhD level to conduct research comparable to other international researchers.

2.0 ENTRY REQUIREMENTS

The common regulations for the Doctor of Philosophy Degrees in the University of Nairobi shall apply. In addition a Master of Science Degree in Geospatial Engineering or related disciplines from the University of Nairobi or any other institution recognized by the University Senate as being of equivalent academic status.

STAFF LIST

Chairman of Department:

Karanja, F.N., BSc, PGDip. (Comp.Sc.), MSc, (Nairobi), Dr.-Ing. (Hannover), MBA, (KU), MISK, Lic. Surv.(K)

Professor

Aduol, F.W.O., BSc, MSc, (Nairobi), Dr.-Ing.(Stuttgart), MISK (*on leave of absence*)
Mulaku, G.C., BSc, (Nairobi), PGDip, (ITC), MSc, (Calgary), PhD, (New Brunswick), MISK, Lic. Surv.(K)

Associate Professor:

Kiema, J.B.K, BSc, MSc, PGDip. (Comp.Sc.), (Nairobi), Dr.-Ing., (Karlsruhe) (*on leave of absence*)
Karanja, F.N., BSc, PGDip. (Comp.Sc.), MSc, (Nairobi), Dr.-Ing., (Hannover), MBA, (KU), MISK, Lic. Surv.(K)

Senior Lecturer:

Musyoka, S.M., BSc, MSc, (Nairobi), Dr.-Ing.,(Karlsruhe), MISK, Lic. Surv.(K)
Siriba, D.N., BSc, MSc, (Nairobi), Dr.-Ing., (Hannover), MISK

Lecturer:

Mwenda, J.N., BSc, (Nairobi), MEng, (New Brunswick, Canada), MSc, (KTH), MISK, CLS (EA), Lic. Surv.(K)
Okumu, B.M., BSc, (Nairobi), MSc, (New Brunswick), MISK, CLS (EA), LS (K)
Wakoli, P.C., BSc, (Nairobi), MSc, (London,UK)

Tutorial Fellow:

Matara, S.M., BSc, (Nairobi), MSc, (Politecnico di Torino, Italy), MISK
Mwaniki, M., BSc, (JKUAT), (G&G in Sys), MSc, (G in Sys&RS)
Mugo, B., BSc, (GE), MSc, (GIS), (Nairobi)
Asala, L., BSc, (Surv), MSc, (GIS), (Nairobi)

Principal Technologist

Lwanga, C.M., BPhil Surveying, (Nairobi), HND (KP), Dip Land Surveying, (KP), Dip Land Law, Cert. Instructor Training, (KTTC), LS(K)

Chief Technologist

Omuchen S.M., BPhil Surveying Technology, (TUK), DIP. Land Law, (LSB), HND (Surveying and Mapping), (KP), OND (Land Surveying), (KP), MISK

Senior Technologist

Nganga, R.W., MSc, (GIS-Nairobi), BArts Land Econ, (Nairobi), HND (Land Surveying), (KP), Dip. (Cartography), (KP)
Mwandongo, E., BPhil Geoinformation Techn., (TUK), Post Dip., Dip. (Photogrammetry-KISM).
Oyugi N., Dip. Cartography), (KP), Cert. (GIS-Nairobi), Cert. (GIS and Remote Sensing-JICA), Cert. (LIMS-RGCMS)

Technologist

Nthiga, H., HND (Photogrammetry and Remote Sensing-KISM), Dip (Photogrammetry and Remote Sensing-KISM)

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 School.

Please contact:

The Dean, School of Engineering

Tel: 254-020-3318262

Email: dean-engg@uonbi.ac.ke

INSTITUTE OF NUCLEAR SCIENCE AND TECHNOLOGY

Director of Institute: Prof. Gatari, M.J.G., PhD Environ. Sci. (Physics bias), Lic. Phil in Environ. Sci. (Physics bias) (Chalmers/Goteborg, Sweden), Higher Dip. (Electrical & Electronics), (Kenya Polytechnic)

1.0 INTRODUCTION

The Institute of Nuclear Science is part of the College of Architecture and Engineering at the University of Nairobi. It was started in 1979 as a Centre for Nuclear Science Techniques within the School of Engineering following recommendations by the National Council for Science and Technology (NCST) and with technical assistance from the Government of Kenya and the International Atomic Energy (IAEA). The Institute has mandate to:

2.0 COURSE OBJECTIVES

- i) Train the local manpower in the applications of experimental nuclear techniques.
- ii) Study and utilize peaceful uses of nuclear technology in the country.
- iii) Use nuclear analytical techniques in analysis of a wide variety of materials.
- iv) Provide services to other Departments, Private and Government Institutions.

MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY DEGREES IN NUCLEAR SCIENCE

The Institute offers MSc. and PhD. degrees in Nuclear Science. The thesis work is determined from the course work and interdisciplinary research programmes in the Physical and Biological Sciences.

STAFF LIST

Director of Institute (Ag.):

Gatari, M.J.G., PhD Environ. Sci. (Physics bias), Lic. Phil in Environ. Sci. (Physics bias) (Chalmers/Goteborg Univ. Sweden), Higher Dip. (Electrical & Electronics), (Kenya Polytechnic)

Associate Professor:

Gatari, M.J.G., PhD Environ. Sci. (Physics bias), Lic. Phil in Environ. Sci. (Physics bias), (Chalmers/Goteborg Univ. Sweden), Higher Dip. (Electrical & Electronics), (Kenya Polytechnic)

Lecturer:

Maina, D.M., BSc (Chem.), MSc (Chem.), (Nairobi), MSc (Applied Radiation Physics), (Birmingham, UK) (*Deceased*)
Mangala, M.J., BSc, MSc, (Nairobi)

Tutorial Fellow:

Wafula, J.C., BSc, (Nairobi), MSc, (Oldenburg)

Chief Technologist:

Matini, A.O., HND, (Kenya Poly)
Oreacque, R., HND, (Kenya Poly)

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 Institution.

Please contact:

The Director,
Institute of Nuclear Science and Technology
Tel: 254-020-3318262; Email: inst@uonbi.ac.ke