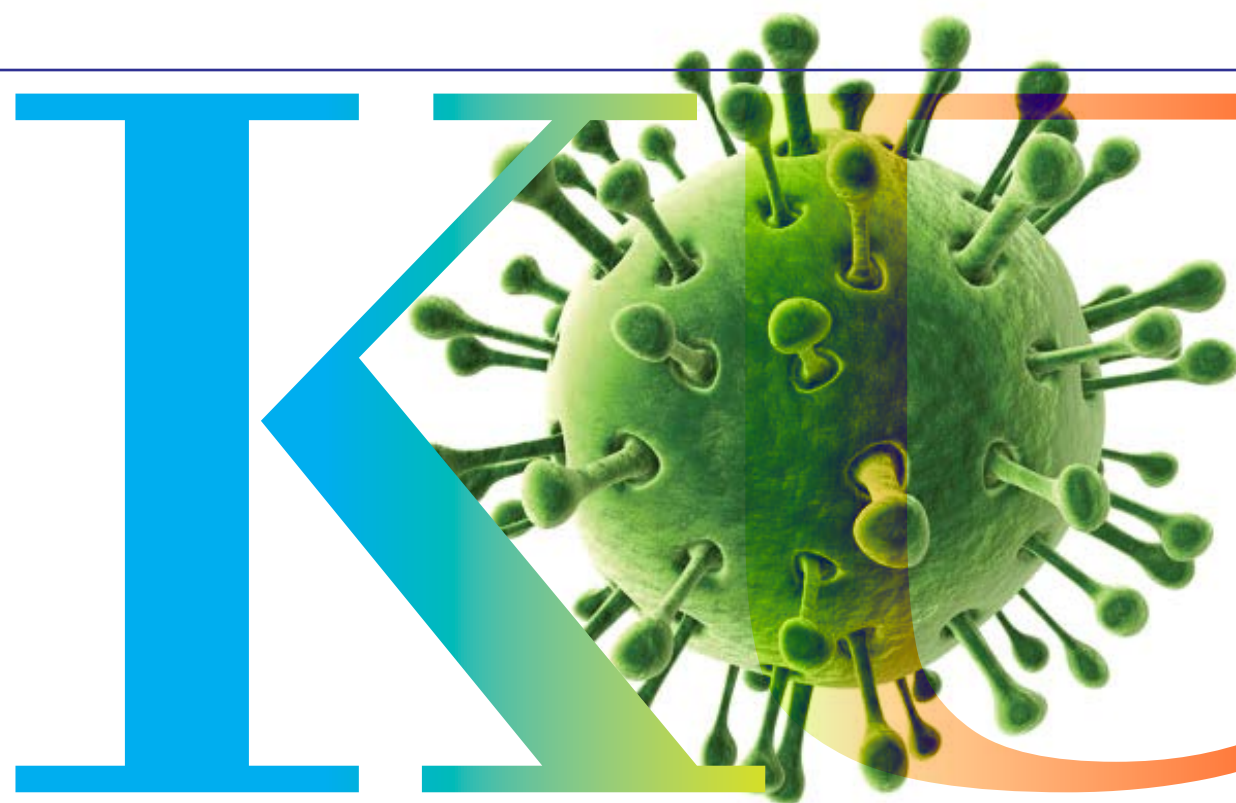




KENYATTA  
UNIVERSITY



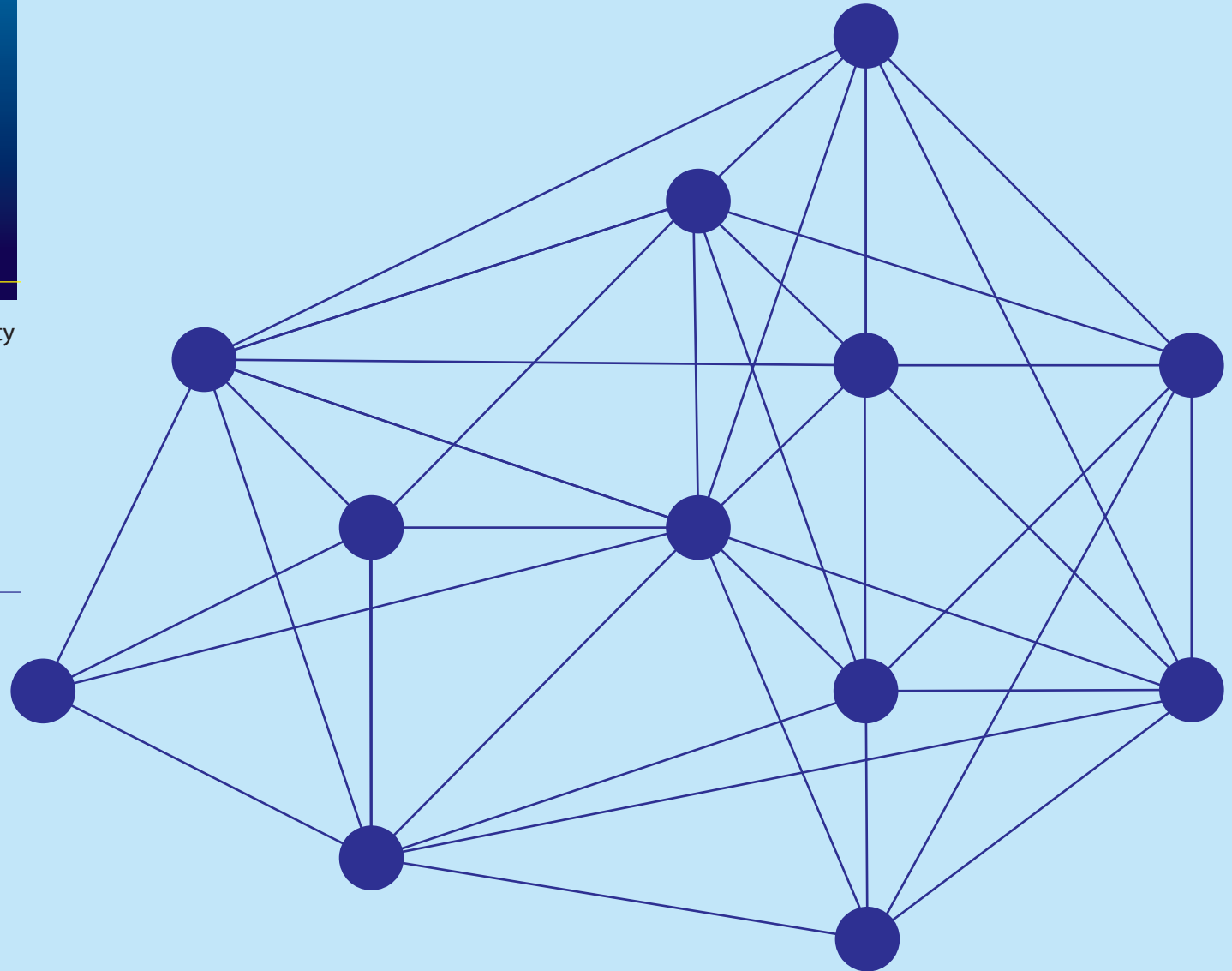
SCHOOL OF PURE AND APPLIED SCIENCES

## Internal Links:

The School forms one of the six Schools of the University and has a student population of approximately 2000.

## External Links:

Through the departments, the School has a vast network of active scientific links with other institutions of higher learning specialized organizations, industries and related government agencies and departments all aimed at acquainting students early with high level research and preparation for the job market.





## Structure of the School:

The School is headed by a Dean who co-ordinates the 8 teaching Departments each headed by a Chairman.

The 8 Departments are:

- *Department of Chemistry.*
- *Department of Physics.*
- *Department of Biochemistry & Biotechnology.*
- *Department of Mathematics.*
- *Department of Zoological Sciences.*
- *Department of Plant Sciences.*
- *Department of Microbiology.*
- *Department of Statistics and Actuarial Science.*

## MISSION

*The mission of the School is to provide high quality education based on modern scientific teaching and research techniques and to produce highly trained scientists in the various disciplines to meet the ever growing challenges of a dynamic world in the pure sciences and to offer practical solutions to problems affecting humanity in applied sciences.*

# Department of Chemistry:

## Vision:

To be a dynamic centre of excellence for teaching, research and application of chemical sciences for sustainable development.

## Mission:

To provide quality education in chemical sciences and technology, and generate scientific knowledge through diverse innovative research in fundamental, applied and multi-disciplinary areas for the benefit of the society.

## Study Programmes

### Undergraduate

The Department currently offers three unique 4-year Bachelor's degree programs that are geared towards meeting the demands of the market. They include, **Bachelor of Science (Chemistry Major), B.Sc. (Industrial Chemistry with Management), and B.Sc. (Analytical Chemistry with Management)**. B.Sc. (Chemistry Major) is offered to students who are registered as:

- (i) full-time
- (ii) institution-based, or
- (iii) open learning modes of study.

The other two degree programs are offered only to students registered in the full-time mode of study.

### Graduate Studies

The Department offers two masters degree programs; **M.Sc. (Applied Analytical Chemistry) and M.Sc. (Chemistry)**. A **Doctor of Philosophy (PhD) degree program is offered in all branches of chemistry**. The students taking M.Sc. (Chemistry) program may specialize in any of the following areas of study: **Organic, Inorganic, Theoretical or Physical Chemistry, Chemical Ecology, Computational Chemistry and Nano-science programs are being developed.**

# Department of Biochemistry and Biotechnology:

### Specialty and branding

The department offers a wide range of programmes in Applied Biochemistry and Biotechnology with diverse and unique units that enable the students to be marketable in wide variety of scientific fields. Our students acquire knowledge and skills that allow them to work in Research Institutions, Drug Companies, Science Based and Food Industries, Teaching Institutions and in the Health Services Laboratories. The department has a biosafety level 2 plant laboratory and an animal

## Study Programmes

### Undergraduate

The department has five (5) undergraduate programmes already running.

- Bachelor of Science (General)
- Bachelor of Science (Biochemistry)
- Bachelor of Science (Biotechnology)
- Bachelor of Science (Molecular and Cellular Biology)
- Bachelor of Science (Forensic Science)

The department also offers Medical Biochemistry courses to first and second year students taking Bachelor of Medicine and Bachelor of Surgery and Bachelor of Pharmacy. The Bachelor of Science (Molecular and Cellular Biology) and Bachelor of Science (Forensic Science) were recently reviewed. The reviewed programmes take effect in the first semester of 2015/2016 Academic year.

### Study mode and duration

Programmes delivery is on full time basis and the mode of study is based on the units system. The duration is 4 years comprising of 2 semesters every year. Assessment is by continuous assessment tests (accounting for 30%) and end of semester examinations (accounting for 70%).

### Postgraduate courses

We offer the following Master programmes:

- Master of Science (Biochemistry)
- Master of Science (Biotechnology)
- Master of Science (Medical Biochemistry)



## Study mode and duration

For M.Sc. the mode of delivery is either: full time, part-time or institutional based. The mode of study is based on the units system and course duration is 2 years. Taught course work takes one year and thesis takes the second year. Assessment is by continuous assessment (accounting for 30%) and end of semester examinations (accounting for 70%) for the first year. Thesis is used for assessing the M.Sc. students in the second year.

The department has PhD students in various disciplines that are related to what we offer. The PhD degrees are based on research alone and take between 3 and 4 years. For PhD students' evaluation is by thesis alone.

## Department of Plant Science:

The Department of Plant Sciences (PS) is part of the School of Pure and Applied Sciences and also offers units to students from the School of Education and School of Applied Human Sciences.



## Study Programmes

### Undergraduate

The Department of Plant Sciences offers undergraduate programmes leading to the degree of:

1. Bachelor of Science (B.Sc.)
2. Bachelor of Science (Conservation Biology)
3. Bachelor of Education (Science)

The programmes cover pure and applied aspects of PS and include an optional research in the final year.

### Mode of Study Duration

The Department of Plant Sciences offers full time, School

Based and Opening Learning mode of study. All programmes last four academic years. By using the optional additional period of study during the long vacations it is possible for the students to complete these

### Postgraduate Programmes

Postgraduate programmes are available for the degrees of Master of Science (M.Sc.) and Doctor of Philosophy (Ph.D.). The Master of Science Programmes are available in the following areas of specialization:

- M.Sc. (Developmental Botany)
- M.Sc. (Ethnobotany)
- M.Sc. (Genetics)
- M.sc. (Plant Biochemistry and Physiology)
- M.Sc. (Plant Ecology)
- M.Sc. (Plant Taxonomy)

Ph.D. programmes are available in most areas of PMS, depending upon the availability of specialized staff for supervision.

## Mode of study and duration

The M.Sc. programme consists of nine months of course work with written examinations, followed by one year of research, at the end of which a thesis is submitted for examination. The Ph.D. programme involves three years of research which a thesis is submitted for examination.

## Department of Physics:

We are part of the School of Pure and Applied Sciences and offer units to students from the School of Education. Our students combine the physics units with units from Mathematics or Chemistry departments.

In line with our department's desire to move into the fields of applied physics, and in a bid to diversify its programs so as to retain graduates capable of coping with the challenges posed by the emerging technologies such as telecommunication and information technology, we have started a programme in B.Sc (Telecommunication and Information Technology).

To enhance physics graduates career prospects in today's limited and competitive job market, we have been revising our courses regularly. Currently, we have embarked upon applied physics courses where on enrolling in the department you will have an opportunity to select one area of specialization depending on your career interests.

## Study Programmes

### Undergraduate

- B.Ed (Science)
- B.Sc (General)
- B.Sc (Telecommunication and Information Technology-T.I.T)

### Graduate Studies

Master of Science Degree in Applied and Theoretical Physics

### Study Mode Duration and Assessment

The M./Sc degree programme may be undertaken in either one academic year of course work and examinations followed by one academic year of research or two academic years of course work examination and a research project. The degree of Doctor of Philosophy (Ph.D) is undertaken by research only.

The M./Sc and Ph.D programmes may be taken in any one of the specialization areas in Pure, Applied and Theoretical Physics.

## Department of Mathematics:

The department of Mathematics welcomes you to a conducive and inspiring learning environment. The Department is one of six departments in the School of Pure and Applied Sciences at Kenyatta University. Established in 1972, the Department has been at the apex of capacity development in Mathematics and Statistics in Kenya. Graduates of the department form the bulk of Mathematics teachers in Secondary Schools and Tertiary institutions in the country. Besides, many of our graduates are employed in research institutes, industries and banks. The Department offers courses leading to five areas of specialization; Pure Mathematics, Applied Mathematics, Statistics, Social Statistics and Biostatistics. In addition, the Department offers service courses for other Departments in the university.

### Vision

The vision of the Department is to be a center of excellence in teaching, research and service to community in Mathematics and Statistics.

### Mission

The mission of the Department is to teach and advance the state of the art knowledge in Pure Mathematics, Applied Mathematics and Statistics.

## Study Programmes

### Undergraduate

The undergraduate programmes take 3-4 years. In the first year of study, a student registers for courses in at least two (2) departments. As a subject, Mathematics can be combined with a number of other subjects under one of the following categories: Minor, Regular or Major. Students in Mathematics take courses leading to any of the following degree courses:

- Bachelor of Science (General)*
- Bachelor of Education (Science)*
- Bachelor of Education (Art)*
- Bachelor of Arts (BA)*
- B.Sc (Statistics & Programming)*

### Graduate Studies

Depending on the area students majored in at undergraduate level, a student can opt for any of the following programmes at the Msc level:

- Msc in Pure Mathematics
- Msc in Statistics
- Msc in Applied Mathematics
- Msc in Biostatistics
- Msc in Social Statistics

The degree of PhD is attained by original research work and the submission of thesis under the guidance of supervisors from the department through the Graduate school. A candidate registering for PhD degree should apply after consulting the supervisors in the Department under whom he/she wishes to work.

# Department of Zoological Sciences:

The Department of Zoological Sciences seeks to provide an environment for learning that produces graduates with knowledge, skills and competence in the labour market. It prepares graduates for a wide range of zoological sciences related careers. Graduates from the Department of Zoological Sciences have been employed in industries, National and International Research Institutions, Health Institutions, Pharmaceutical and Biotechnology industries, Secondary schools and Polytechnics, Universities, Government departments and Non-governmental organizations. In addition, they have been able to fit into careers not closely related to biology such as the insurance and banking industries.

## Study Programmes

### Undergraduate

The following BSC programs are resident in the Department of Zoological sciences:

- BSC (Bsc).
- BSC Biology.
- BSC Animal Health.
- BSc Coastal and marine Resource Management.
- BSC Education.

### Graduate Studies

The department of Zoology offers M.Sc. programmes and by course work examination and thesis in specialised areas. The master of science degree in zoology shall extend up to a period of at least eighteen months. In the first year students will take a maximum of ten units which all ten will be core. In the second year, students will concentrate on their research work and present a thesis for examination.

The department of Zoological Sciences offers masters of science programmes in the following areas:

- Applied Medical Entomology
- Animal Physiology
- Immunology.
- Applied Medical Parasitology.
- Agricultural Entomology.
- Aquatic Ecology.
- Animal Ecology.
- Fisheries Science.
- Developmental Biology Vertebrate Pest Studies.
- Applied Coastal and Marine Resource Management.

Doctor of philosophy by research and Thesis is offered in the following area:

- Medical Entomology
- Animal Physiology.
- Immunology.
- Parasitology.
- Agricultural Entomology.
- Aquatic Ecology.
- Fisheries Science.
- Developmental Biology.
- Vertebrate Pest Studies.
- Coastal and Marine Sciences.

# Department of Microbiology:

The Department of Microbiology is part of School of Pure and Applied Sciences and offers courses to students from the *School of Agriculture and Enterprise Development, School of Applied Human Sciences, School of Education, School of Environmental Studies and School of Medicine.*



## Study Programmes

### Undergraduate

-Bsc. Microbiology

### Graduate Studies

The masters programme shall extend over a period of atleast eighteen months from the date of registration and shall consists of coursework,examination and thesis.

During the first year of study a student will be required to follow a programme comprising a minimum of eight units and a maximum of ten units. The second year will be devoted entirely to research and thesis

Masters programmes include:

- Msc. Medical Microbiology.
- Msc. Environmental Microbiology.
- Msc. Industrial Microbiology.

The doctor of phillosophy degree will be offered by research and thesis. The programme shall extend for a period of at least three years but not exceeding four years from the date of registration.



## Department of Statistics and Actuarial Science:

Besides offering services to other departments, the department has both undergraduate and post graduate programs namely;

### Undergraduate program

- Bachelor of Science (Statistics and Programming)
- Bachelor of Science (Actuarial Sciences)

### Postgraduate program

- Master of Science (Statistics)
- Master of Science (Social Statistics)
- Master of Science (Biostatistics)





**For more information, please Contact:  
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