

University of Lagos

MSc in Biomedical Engineering

Duration (in semesters): 2

Study credits/hours (per semester): 13 first Semester, 16 Second Semester (Total 29)

Objectives

To leverage on knowledge in engineering and the sciences to create a synergy that stimulates innovative, interdisciplinary cross fertilization of ideas leading to solutions, new technologies and therapies that solve medical and allied problems and improve health care delivery.

Structure and content

The students take compulsory courses in:

- Biomedical Engineering
- Basic Biomedical Sciences
- Research Methods and Biostatistics
- Biomaterials and Fabrication
- Signals and Systems
- Biomechanics
- Numerical Methods
- Medical Instrumentation

Students have elective options in:

- Health Informatics and Management Information System
- Medical Electronics
- Medical Imaging and Image Processing
- Neural Networks
- Prosthetics and Artificial Organs

Students carry out a research project, under supervision, in Semester 2. The dissertation is assessed by an external examiner.

Teaching and Assessment methods:

The teaching and assessment is based on Didactic Approaches and Problem Based Learning. It also includes hands-on sessions and practical exercises, students' presentations, seminars and research.

Learning outcomes

The expected learning outcomes are the development of the following competences and skills:

- The ability to apply knowledge of mathematics, life sciences and engineering to health and allied issues.
- Identification of needs and potential solutions through innovation.
- Design of processes, components or devices to meet desired needs within realistic constraints such as economic, environmental, social, ethical, safety and sustainability.
- Use of techniques, skills and modern engineering tools necessary for engineering practice.
- The ability to function effectively and efficiently in multidisciplinary teams.
- Understanding of professional ethical codes and responsible conduct of research.

The programme aims to develop human capacity in an area where Nigeria has a critical need and where there is a shortage of human resources.

Credits per course

COURSE	CREDIT UNITS	SEMESTER OFFERED
Biomedical Engineering	3	1
Basic Biomedical Sciences	2	1
Research Methods and Biostatistics	2	1
Biomaterials and Fabrication	2	1
Signals and Systems	2	2
Biomechanics	2	2
Numerical Methods	2	2
Medical Instrumentation	2	2
Health Informatics and Management Information System	2	1
Medical Electronics	2	1
Medical Imaging and Image Processing	2	1
Neural Networks	2	2
Prosthetics and Artificial Organs	2	2
Research Project	4	2