



UNIVERSITY OF NAMIBIA
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY
Tel: +26461206 3384; Fax: +26461206 3791

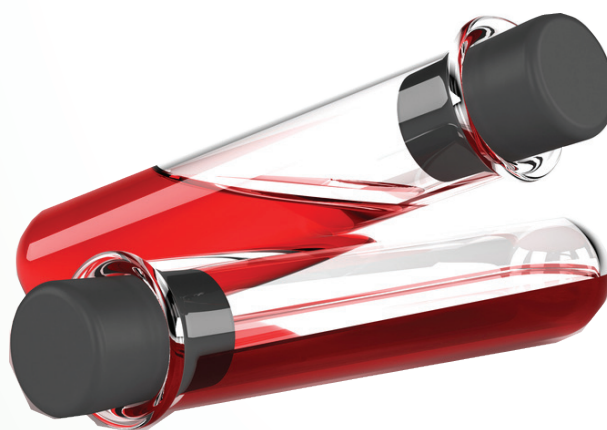


“Be the change you wish to see in the world” (Gandhi)

Chemistry and Biochemistry are core disciplines forming an important functional part of professional qualifications and specialisations such as Medicine, Industrial Chemistry, Geo-Chemistry, Natural Product Chemistry, Pharmacology, Chemical Engineering, Bio-medical Sciences, Agriculture and Environmental Chemistry. The department of Chemistry and Biochemistry is very proud to provide services and setting the foundation for the professional development of students in these fields. We are delighted to be an associate role player towards envisioned knowledge base society (Vision 2030). Each year we receive arguably one of the largest student enrolments. The current complement of first year students is more than a 1000 and total number of students including distance candidates is more than 3000.

We believe that it is the experience of learning that counts. Good learning experience will encourage live long learning and cultivate a culture of competitive excellence and good citizenry. Our core mission is to provide the experience by enabling the learning environment and provide our students with ‘change imperatives’ for sustainable national development. We are an aspiring academic department desperately seeking to:

- understanding the context specific national needs
- ensure relevance of our academic programs
- foster appropriate linkages, networks and partnership build around the common appreciation of the importance of quality nationally relevant science and technology interventions





Staff Complement and Structure



Head of Department:	Dr E Naomab: B.Sc., MSc. (UNAM), MRes (Nottingham Trent, UK), PhD (Nottingham University, UK)
Professor:	Prof E M R Kiremire: B.Sc. (Hons), University of East Africa, Makerere University College) Ph.D. (Univ. of New Brunswick, Canada) (Dean Faculty of Science)
Associate Professor:	Prof E F Archibong: PhD. (University of New Brunswick, Canada)
Associate Professor:	Prof Wang: M. Eng (China)
Senior Lecturer:	Dr H R Lotfy El -Sayed: B.Sc., MSc, PhD. (Mansaoura University- RPI, USA)
Senior Lecturer:	Dr M A Kandawa-Schulz: M.Sc. Dr.rer.nat. (University of Rostock, Germany) (Deputy Dean Faculty of Science)
Lecturer:	Dr ERT Elago: B.Sc. (UDW) PGDE (UNAM) B.Sc. Hons, MSc (UPE), PhD (NMMU, South Africa)
Lecturer:	Dr E Naomab: B.Sc., MSc. (UNAM), MRes (Nottingham Trent, UK), PhD (Nottingham University, UK)
Lecturer:	Dr R Hans: B.Sc. (UNAM), MSc (University of Botswana), Ph.D (University of Cape Town)
Lecturer:	Dr G Kahaka: B.Sc. (UNAM), MSc & Ph. D (Nottingham University, UK)
Lecturer:	Ms C V Raidron: B.Sc., HED (UNAM), MPhil (Murdoch University, Australia)
Lecturer:	Mr V Uahengo: B.Sc. (UNAM), MSc. (Wuhan. Univ, China), Staff Development Fellow
Lecturer/Tutor:	Ms T Thomas B.Sc. (UNAM), MSc. (UCT, South Africa)
Lecturer/Tutor:	Mr G Uiseb: B.Sc.(UNAM), MSc (Loughborough University, UK)
Researcher:	Ms N Pogori B.Sc. (UNAM), MSc, (Jiangnan University, China)
Senior Technologist:	Mr W Song: B. Eng. (South East University, China)
Technologist, MSc Student:	Ms C Mukakalisa: B.Sc. (UNAM)
Technologist, MSc Student:	Mr T Ndunge: B.Sc. (UNAM)
Technologist, MSc Student:	Mr N Gariseb B.Sc. (UNAM)
Technologist, MSc Student:	Ms S Potgieter: B.Sc. PGDE, Hon Science Education
Technologist, MSc Student:	Ms M Nyambe (UNAM), Hons (Stellenbosch, South Africa)
Technologist:	Ms A Shiimi: B.Sc. (UNAM), B. Sc Hons (UCT), MSc (UCT, South Africa)
Technologist:	Ms N Shifeta B.Sc. (UNAM)
Technologist:	Ms H Hakwenye B.Sc. (UNAM)
Technologist:	Ms C Tjiurutue B.Sc. (UNAM) Staff Development Fellow (Massachusetts, Amherst, USA)
Technologist:	Mr D Likius: BSc (UNAM), MSc (UNAM) Staff Development Fellow (Kongakuin, Tokyo, Japan)
Assistant Technician:	Mr T Manuel





Vision

- To become the leading national centre of excellence for teaching, research and development in Chemistry and Biochemistry related disciplines.

Mission

The Department of Chemistry and Biochemistry's primary goal is to form a dynamic network of select academia, businesses and donor agencies eager to foster interdisciplinary thinking in the search for solutions to pressing national needs and industry demands. The department of Chemistry and Biochemistry seeks to provide a vital platform for teaching and learning, research, innovation, entrepreneurship and community engagement. Furthermore we seek to up-scale promising pilot projects stimulated by the national needs and projects coming out of our internal innovative processes. We seek to provide quality Chemistry and Biochemistry graduates reminiscent of a national centre of excellence in Chemistry and Biochemistry.

Core Values

- Passion for academic excellence
- Determination for relevant research contributing to national development
- Maintain competent work force, relevant actors, partners and networks
- Ensure quality in all our functional areas
- Maintain competitive technological edge through on-going research and development
- Enabling environment for career development, entrepreneurship and community engagement

We offer a broad range of courses both at undergraduate and post-graduate level. The





undergraduate courses are part of the fundamental or core sciences for the Bachelor's degrees offered by the following UNAM faculties: Science, Education, Medical and Health Science, Engineering and Information Technology. The course on offer includes:- General Chemistry, Analytical Chemistry, Biochemistry, Biotechnology, Inorganic Chemistry, Organic Chemistry, Instrumental Analysis and Industrial Chemistry.

Undergraduate Courses and Qualifications offered by the department

- Bachelor of Science (Honours) Chemistry Major and Physics Minor
- Bachelor of Science (Honours) Chemistry Major and Biology Minor
- Bachelor of Science (Honours) Chemistry Major and Geology Minor
- Bachelor of Science (Honours) Biochemistry Major and Biology Minor
- Bachelor of Science (Honours) Biochemistry Major and Chemistry Minor

Postgraduate Courses

At the postgraduate level we offer specialist training through a well-designed, Master of Science (MSc) degree program. The program is composed of both taught and research components and is designed to enhanced academic knowledge and a range of specialist and generic transferable skills that is most sought after by organizations.

- Master of Science in Chemistry
- PhD in Chemistry

Our researchers collaborate extensively in several strategic theme areas, including:-

- 1. Build Environment, Sustainable Energy,**



Climate Change Adaptation and Mitigation

Application of green chemistry to synthetic organic chemistry, specifically in alternative reaction media (including solvent-free synthesis) and alternative activation (e.g. microwave, ultrasound, etc.) • Wastewater treatment • Resource efficiency measurements and Carbon footprinting • Climate Change technologies • Carbon Management • Environmental Management Systems and ISO standardization of Organization • Environmental Policy • Sustainable Energy • Renewable energy sources) • Environmental Radiochemical Analysis (**Research Team: Dr E Naomab, Dr HR Lotfy, Ms C Raidron, Dr ERT Elago, Mr G Uiseb**)

2. Improvement and value addition of Plants and Crops and Food Chemistry
 Biochemical and Chemical characterization and molecular, environmental and nutritional evaluation of local plant and crop species • Screening, isolation, purification and characterisation of novel enzymes from microorganisms and/or plants • Studying the fermentation/cultivation conditions for the production of enzymes and other functional compounds produced by microorganisms, in particular fungi • Plant Resources • Plant Environment Interactions and adaptation strategies, enhancing coping strategies of communities to climate change variability • Value addition and improvement of local plant/crop species • (**Research Team: Dr M Kandawa-Schulz, Dr E Naomab, N Pogori, Ms C Tjiurutue**)

3. Medicinal Chemistry

• Synthesis of coordination complexes containing thio-based ligands • Synthesis of coordination complexes containing nitroxyl ligands • Screening for biologically active products in medicinal plants and subsequent chemical, biochemical and pharmacological studies on plant secondary metabolites • Establishment of seasonal occurrence of algal marine biotoxins along the central Namibian coast (**Research Team: Prof. EMR Kiremire, Dr HR Lotfy, N Pogori, Ms C Raidron, Ms T Thomas**)

4. Computational Chemistry/Bioinformatics

• Electronic structure of semiconductor clusters • Computational modeling of the interaction of ozone with thio-phenol, seleno-phenol and DNA bases • Bioinformatics for small scale genome project for local species, AKA X-species hybridization • Gene Ontologies for Namibia Fauna and Flora • Systems biology for biochemist (**Research Team: Prof. Edet Archibong, Dr E Naomab, Dr M Kandawa-Schulz**)

5. Industrial Chemistry and Nanotechnology

• Nanomaterials, Applied Chemistry and Chemical Engineering (**Research Team: Prof J Wang, Dr E Naomab**)

