



**UNIVERSITY OF PORT HARCOURT, PORT
HARCOURT, NIGERIA**



**AFRICA CENTRE OF EXCELLENCE
FOR PUBLIC HEALTH AND
TOXICOLOGICAL RESEARCH (PUTOR)**



CENTRE'S ACADEMIC HANDBOOK

JANUARY 2022

Preface

The purpose of this handbook is to provide general information for the guidance of PhD students who may wish to undertake training and research at the World Bank Africa Centre of Excellence for Public health and Toxicological Research (ACE-PUTOR), University of Port Harcourt. The Handbook and the contents are subject to change from time to time.

The Centre's Academic Board reserves the right to modify or cancel any statement in the brochure and accepts no responsibility for any consequence(s) arising from this

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UniPort's Anthem



THE UNIVERSITY ANTHEM

On the green lowlands and swampy planes
Of the new Calabar Rivers stand
The University of Port Harcourt
A citadel of learning and excellent education
A home of academic enthusiasts,
Searching, searching for knowledge and wisdom.

Enlightenment and self-reliance, our mission,
Our hope in the future is rooted in God alone;
The vision of our father shining in the stars,
Opportunities, unlimited and equal,
Our progenies citizens of the universe
From far and near, the pride of Uniport echoes.

Refrain:

Unique, Unique, Unique Uniport
Unique, Unique, Unique Uniport

Welcome from the Centre Leader

Dear Student

Welcome to the Africa Centre of Excellence for Public Health and Toxicological Research in the University of Port Harcourt. This document contains important information about the University of Port Harcourt, PUTOR, students' training and other useful information that would help you. Please read through carefully and keep for future reference. If you have any problem, please contact the appropriate member of staff, or any of the coordinators or your adviser.

We will see quite a lot of each other in the forthcoming years as I look forward to working with you, and to several enjoyable social occasions. The staff at the Centre hope you will have a successful and pleasant period during your engagement with the Centre and we welcome this opportunity to contribute to your career development.

Please note that this document would be used in conjunction with other policies and guidelines of the University of Port Harcourt. This Manual is without prejudice to the existing relevant rules, regulations and conducts at the level of the University of Port Harcourt. Where there are conflicts, the position of the University of Port Harcourt will most likely supersede that of the Centre of Excellence.



Prof. Daprim S. Ogaji
MBBS (UPH), MQI (Helsinki), PhD (Manchester), MNIM, FMCPH, FISQua
Centre Leader

Introduction

The UNIVERSITY OF PORT HARCOURT was established in 1975 as a College of the University of Lagos. The University of Port Harcourt is one of the avant-garde (new, experimental and innovative) tertiary institutions with a mandate to empower the Niger Delta region and the country academically. The University gained full autonomous status in 1977 on the premises of an emergent Trade School outside Choba Community, its temporary site, close to its new permanent site known as the University Park.

“Unique UniPort,” as the institution is popularly known by its many graduates and stakeholders is recognised by the National Universities Commission (NUC) as a campus status with growing academic, residential, social and cultural facilities to support a growing community of Scholars and administrators.

A five-star teaching hospital, which serves as a



“laboratory” for the University's top-rated College of Health Sciences, caters to the health needs of a large populace drawn from the South-South and South-East regions of the country.

The university which offers the best in conventional liberal, equal-opportunity education in the arts, engineering, social sciences and science, is located about 18 kilometres, northwest of the central business district of the bustling Garden City of Port Harcourt, home to

Nigeria's second largest seaport and the hub of the lucrative petroleum and gas industry.

The University is uniquely located in-between the southern-most part of the West African tropical rain forest, and the northern fringes of wetlands, swamps, rivers and mangrove forests



that make the Niger Delta a special tourist attraction. The university is surrounded by rural agrarian and artisanal communities that have been positively impacted by its presence in the area. UNIPORT also runs effective extension services through its specialised research institutes and centres that have encouraged economic growth and social life in its catchment areas and beyond.

The University has been lucky to have very visionary and dynamic Vice Chancellors since its inception, each of whom took the institution to a higher level of infrastructural and academic development.

Unique UniPort welcomes students and visitors to the bustling city of Port Harcourt, the capital of Nigeria's hydrocarbon industry and, indeed, the Niger Delta region.

- The official currency in Nigeria is the Naira. Conversion into other world's currency can be obtained on <https://www.oanda.com/currency/conv/enter/>
- There are numerous ATM machines available throughout the city and within the University
- The electrical voltage in the Nigeria is 220v with a three square -prong socket
- Nigeria is on Greenwich Mean Time (GMT + 1)
- The Port Harcourt average annual temperature is **26.4 °C** in Port Harcourt while precipitation averages 2708 mm weather is often warm.

Corporate profile of the University of Port Harcourt

VISION

The University of Port Harcourt envisions to be among the best entrepreneurial Universities in the world renowned for its teaching, research, innovation, creativity, productivity, scholarship and entrepreneurship.

PHILOSOPHY

The University of Port Harcourt is committed to academic freedom, ethics and integrity, tolerance, probity, equal opportunity, producing competent graduates and respect for cultural diversity.

MISSION STATEMENT

The Mission of the University of Port Harcourt is the pursuit of academic excellence, the advancement of knowledge and services through quality teaching, lifelong learning, social inclusion, strengthening of civil society and policy relevant research that address the challenges of contemporary society.

GOALS AND OBJECTIVES

GOAL 1: UNIVERSITY GOVERNANCE/FINANCIAL MANAGEMENT

- Objective 1: Every unit of the University should be structured to be cost effective and efficient, and generate revenue e.g. 10% annual improvement
- Objective 2: Broaden the funding sources for the University
- Objective 3: Computerization of the accounting system of the University
- Objective 4: The skill set of people in the University leadership should meet global best practice
- Objective 5: Adherence to procurement guidelines

GOAL 2: EXCELLENCE IN TEACHING, TRAINING AND RESEARCH

- Objective 1: Improvement in the quality of teaching, research and Learning
- Objective 2: Improvement in the international outlook of the University
- Objective 3: Upgrade of existing library and information technology services in the University
- Objective 4: Making the University a centre of excellence for Niger Delta Studies, Sports, Arts, Petroleum Engineering and Geosciences
- Objective 5: Engage in internationally recognized and locally relevancy research, perfect creativity, innovation, patent, publish and develop products for commercialization and entrepreneurship.

GOAL 3: UPGRADING OF INFRASTRUCTURE AND UTILITY SERVICES

- Objective 1: Improvement of the road network and access to all units.
- Objective 2: Water supply for a projected population of 100,000 by 2025
- Objective 3: Provision of uninterrupted power supply using a multi-prong approach including gas, biomass, solar.
- Objective 4: Strengthening and upgrade of safety, waste management and general environmental beautification (including aesthetics, painting/building designs)
- Objective 5: Provision of suitable buildings to accommodate all academic Units
- Objective 6: Improvement of health care and recreational facilities.
- Objective 7: Expansion of student and staff accommodation using various partnership options

- Objective 8: Provision of modern ICT infrastructure
- Objective 9: Provision of adequate resources and logistics to enable units of the university to fulfill their roles

GOAL 4: STRENGTHENING THE ENGAGEMENT OF THE UNIVERSITY WITH STAKEHOLDERS

- Objective 1: Building enabling environment and encourage partnership with stakeholders
- Objective 2: Increasing participation of stakeholders in decision making
- Objective 3: Marketing our services and solicit the services of stakeholders and partners through the Technology Park, Art Village, Green Park.
- Objective 4: Engaging national and international standards organizations for ISO Certification of the University of Port Harcourt
- Objective 5: Encouraging the Alumni Association by developing programmes that promote effective networking amongst its members in Nigeria and Diaspora

WELCOME TO PORT HARCOURT (THE GARDEN CITY OF NIGERIA)



The University is located about 15 Kilometres northwest of Port Harcourt. Port Harcourt was founded by the British Colonial Government in 1913, following the discovery of coal near Enugu, the defunct regional capital of Eastern Nigeria. There was a felt need for a seaport and railway terminus to evacuate coal and engage in land trade that was growing on the Eastern hinterland. Port Harcourt has since attracted

a cosmopolitan population made up of many nationalities that relish its cultural diversity and bustling night life.

The discovery of oil at Oloibiri in 1956 in present-day Bayelsa State in the Niger Delta heartland brought accelerated development to the city of Port Harcourt and its environs, making it one of the largest cities in West Africa (Gulf of Guinea).

The city is also famous for glass, tyre, brewing, petro-chemicals and liquefied natural gas. Most of the multi-national oil drilling and servicing companies have their offices in Port Harcourt.

The city is a gateway to the riverine areas of the Niger Delta, and provides ample opportunities for studies in marine biology, eco-tourism and the life sciences. Port Harcourt can be reached by road and sea from all parts of Nigeria; with daily flights to and from major cities of Nigeria and the world.

About PUTOR

PUTOR is a World Bank funded Africa Centre of Excellence for Public Health and



Toxicological Research. It is a platform for providing interdisciplinary academic streams of postgraduate programmes, in order to rapidly bridge the gap arising from current paucity of adequately trained personnel with terminal degrees in

public health, toxicology, nutrition and midwifery/child health nursing in sub-Saharan Africa.

Health systems played a key role in the dramatic rise in global life expectancy during the 20th century, and still contribute enormously to the improvement in population health. A multi-disciplinary health workforce is the backbone of each health system that facilitates the smooth implementation of health actions for sustainable socio-economic development. Furthermore, the direct effect of on-going oil and gas activities has left deleterious consequences on the ecosystem and public health in all the countries in this region. The ways of life of the people, whose livelihood are dependent on the surrounding ecosystem, have been adversely affected. More recently, there has been a ‘double air pollution burden’ in the city of Port Harcourt. The persistence of *black soot* over the city is partly the result of oil exploration, meteorological changes, and criminal activities of artisanal crude oil refiners, poor environmental regulatory activities and the dearth of strategic knowledge resource to combat these preventable catastrophes.

Adequately trained and highly skilled health workforce would play a major role in tackling the public health and environmental issues arising from oil exploration and exploitation in the Niger Delta region of Nigeria, as well as contiguous areas in the Gulf of Guinea.

Environmental degradation, especially the swamps, rivers and creeks from oil spills, pipeline vandalizing and illegal refining activities, are the major fallouts of the oil and gas industry in the Niger Delta region. This affects the health and livelihood of the people who depend on the ecosystem services for survival, leading to increased poverty and hunger. The problem is compounded by the paucity of highly skilled and motivated health professionals who are equipped with current knowledge, skills and competencies required for conducting cutting-edge research in public health, toxicology, nutrition and nursing that would help mitigate the public health issues arising from oil and gas exploration in the region.

Vision

Our vision is to become a centre of excellence in providing highly sought-after, world-class academic and professional programmes which are recognised for local relevance, international excellence and global impact in the field of public health, toxicology, nutrition and midwifery/child health nursing.

Mission

Our mission is to provide a platform to congregate highly skilled human resource, both within and outside the University of Port Harcourt; build a robust resource of highly skilled and motivated public health professionals who are equipped with current knowledge, skills and competencies required to improve the practice of public health, nutrition, toxicology and midwifery/child health nursing; produce cutting –edge research projects to solve public health issues arising from oil and gas sectors; and undertake consultancy and community services.

Rationale

The need for scholars with research and problem-solving skills who have strong interest in collaborative and interdisciplinary research is increasingly becoming glaring with the advent of multifaceted and complex health challenges. The training programmes by the Africa Centre

of Excellence, provides scholars with the required knowledge and skills in research to approach and fix these challenges.

Specific objectives

Specific Objectives of the Centre include:

1. Training of students, technical experts, and policymakers through short courses on relevant public health and toxicological issues in the region.
2. Training of national and regional Masters' students in the focused areas
3. Training of national and regional students to obtain PhDs in the focused areas.
4. Development of regional research capacity to support focused interventions on developmental challenges

PUTOR advantage

PUTOR's advantages can be appreciated from its recognition of:

Value: All trainings and programmes in PUTOR have strong value propositions designed to develop high-flying health professionals that are equipped to solve local problems.

Partnership: Besides the strong inter-disciplinary research teams that would generate ground-breaking research in health, PUTOR has broad-based partnership with other players in the health and environmental sectors. Our partners include local and international academic institution and industries who contribute to the curriculum development and training programmes under the Centre.

Social: Appreciated from two major perspectives:

- The positive impact of the alumni from PUTOR collaborating departments.
- The accountable and transparent academic governance developed for the Centre.

Business: This is premised on the sustainability plans beyond the grants from the World Bank.

Others: include the: strong emphasis on collaboration and interdisciplinary research; strong reputation for excellence; availability of a language laboratory for training non-English students; e-library facility; access to electronic learning resources; unparalleled support for teaching & learning; comfortable learning environment; students support; and the uninterrupted learning calendar.

Methodology

Philosophically, all programmes in PUTOR were designed with the need to promote equity, excellence and integrity. These are premised on developing the knowledge, skills and competences of students from diverse academic backgrounds to becoming industry-ready professionals. A period of internship in the relevant industry/sector is mandatory and newer pedagogical techniques built around blended learning, competency-based learning and self-directed learning. The development of all programmes in the Centre involved broad stakeholders and partners.

Each curriculum is developed by subject experts based on the need. After approval by the Centre Academic Board, it is then forwarded to the Dean of the School of Graduate Studies who refers all new curricula to the New Programmes Committee headed by the Associate Dean of the School of Graduate Studies. Reviews are made with the Centre's Director in attendance. If satisfactory, recommendation is made to the Board of the School of Graduate Studies. If this Board passes the new curriculum, the Dean of the School of Graduate Studies will forward

same to the Vice Chancellor who then sends it to the Senate Committee on Academic Programme (SCAPP Committee) headed by the Deputy Vice Chancellor (Academic). Where this committee is satisfied, the new curricula are referred to the Senate for Approval.

The Centre and the collaborating units in the university take full responsibilities for programme coordination. We aim to have both local and international accreditations for these programmes and as such, they are tailored to meet specific regional development needs and bear global relevance. All activities of the Centre have strong value propositions that will eventually translate into developing high-flying public health professionals that are equipped to solve local problems. All staff are trained on the newer pedagogical and applied research methodologies that will be deployed. Faculty members and students will be recruited from the West African region to build regional capacity and enhance collaboration. The key international partners (see appendix) will work with PUTOR and collaborating school/centre/departments to review and develop new curricula, conduct trainings and short courses, support the supervision and mentorship of PhD students, and participate in students/faculty exchange and visits.

Education, teaching and learning

PUTOR programmes provide the students with the latest knowledge to research on various causes of diseases, and the skills for their assessment and abatement. The specific objectives of the programme include:

- To provide training in toxicology and environmental health that would enable the postgraduates identify the risks to health in the environment and abate the identified health hazards in the environment;
- To provide opportunities for advanced study and innovations in basic and applied human nutrition including better understanding of socio-cultural effects on diet, the impact that living in "food deserts" could have on good health, and to educate the women on how to make good food choices from the food items available in the community to ensure adequate nutrition and optimal health for women and children;
- To adapt this training in public health, toxicology, nutritional biochemistry and nursing to the needs of the industry, the diverse backgrounds and anticipated future careers of the students.

[Description of graduate training programmes](#)

The Centre had initiated multiple streams of MSc/PhD in core areas within the focus of the Centre, some of which are described below.

[Postgraduate programme in environmental health](#)

The environment is changing at a rate that puts the health of the present and future generations of human beings at risk; hence the need for specialists in Environmental Health to help reverse the trend and promote coping capacity. This taught graduate programme in Environmental Health is designed to build the requisite skills and capacity for driving the practice of Environmental Health in Nigeria.

The philosophy of the programme is to promote equity, excellence and integrity. This is premised on developing the knowledge, skills and competences of students from diverse

academic backgrounds but with creative minds who are desirous to acquire more skills and experiences that would prepare them for leadership roles in public health.

Rationale for the Graduate Programme in Environmental Health

The rationale for establishing the master's programme in Environmental Health is to rapidly bridge the current and obvious paucity of adequately trained environmental health personnel in public and private health institutions in Rivers State, the Niger Delta region and the country in general. This proposed programme of study is intended to address this gap by training individuals who want to develop their expertise in Environmental Health up to the PhD level.

Aim and objectives of the Graduate Programmes in Environmental Health

The aim of the graduate programmes in Environmental Health is to provide the student with the latest scientific information on the various environmental causes of diseases, and the skills for their assessment and abatement. This helps to equip students with knowledge to influence healthy public policies as regards environmental health.

The specific objectives of the programme include:

- To provide training in public health and Environmental Health that would enable the graduate to identify the risks to health in the environment.
- To provide the training that would empower the graduate to abate the identified health hazards in the environment;
- To adapt this training in public health and Environmental Health to the diverse backgrounds and anticipated future careers of the students;
- To award the degrees to individuals who have acquired a depth of knowledge in public health and Environmental Health.

Intended Learning Outcomes

The intended learning outcomes on successful completion of the various trainings in Public Health are:

- a) Know the concept of public health and Environmental Health and its relevance in Nigeria health care system;
- b) Describe the health hazards in the environment, and the possible diseases they are likely to cause
- c) Carry out studies to identify prevalent environmental health problems in the community and determine the effective means of solving them;
- d) Know how to plan, organize and evaluate appropriate health programmes;
- e) Seek and mobilize resources for health care and programmes;

- f) Exhibit the highest principle of public health ethics in the development of abatement programmes for identified environmental health hazards
- g) Be acquainted with the relevant environmental health policies and laws
- h) Carry out a research project in any area of environmental health
- i) Develop the spirit of teamwork among the members of the health team and engage in on-going policy dialogue on environmental health;

Skills to be acquired

In line with the learning outcomes of the programme, the following skills would be acquired:

Technical Skills

- Detailed technical knowledge of public health and Environmental Health
- Understanding of the applications of this knowledge in solving health problems in the society at large
- Technical, interpersonal and organizational competence in the practice of Environmental Health

Generic Skills

- Acquire skills to become highly effective environmental health practitioner in public and private health institutions
- Ability to work as an environmental health specialist independently and in a team within an organisation
- Presentation skills and experience
- Social skill in dealing successfully with every individual in the workplace as public health practitioner and in the community

Postgraduate programme in nutritional biochemistry/ toxicology

Nutritional Biochemistry/Toxicology is a science of food and its relationship to health and diseases. It also refers to nourishment that sustains life, the study of nutrient requirements and the diet providing these requirements. Nutritional biochemistry/toxicology also covers principles and elements (agent, target, and effect) of toxic events, with a focus on food toxicants and nutrient-toxicant interaction. Therefore, this PhD programme will focus on the metabolic biology of nutrients and toxicants in relation to human health and diseases. Our research and curriculum will span a breadth of topics, from the delivery of nutrients to mammalian cells and their molecular functions, through the influence of genetics on diet-associated human disease, to programs and policies that address human and environmental health and safety.

Rationale for the Graduate Programme in Nutritional Biochemistry/Toxicology

The rationale for the PhD programme in Nutritional Biochemistry/ Toxicology is to prepare graduate students to achieve excellence in academic and private sector research and for professional careers related to nutrition and toxicology. The programme is designed to encourage interdisciplinary research in nutrition and toxicology with a focus on metabolic,

physiological and genetic influences on health. Furthermore, we intend to translate knowledge developed through basic research to improve health and integrate such with health-related programmes, including “intervention” research. This will be achieved through curriculum relating nutrition, toxicology and metabolism to the pathophysiology of human health. Our target audience is graduate students majoring in Biochemistry, Nutrition, Food Science, and other relevant programmes. It will comprise mainly of two parts namely: Principles of toxicology: adsorption, distribution, metabolism and excretion (ADME) of xenobiotics; toxicokinetics; system toxicity; organ toxicity and primary research on food and nutritional toxicology: safety assessment on dietary components; case studies on the toxic (or detoxification) events associated with food intake and environmental exposure; in vivo and in vitro techniques for toxicological research.

Aims and Objective of PhD in Nutritional Biochemistry / Toxicology:

After taking this course, the graduate students should be able to:

- understand the basic concepts of toxicology
- understand the molecular mechanism behind the chemical-induced toxicities
- comprehend the impact and risk of dietary chemicals to human health

Intended Learning outcomes

- Critically review primary research papers in nutritional toxicology field
- learn the principles of research techniques used in the toxicological projects
- form their own opinions on the risk assessments of dietary components
- address and discuss the issues related to the chemical-induced toxicities

Skills to be acquired

These include but not limited to:

Providing high quality postgraduate skills that are required to control the current epidemic of nutrition-related health problems (obesity, cardiovascular disease, Type 2 diabetes, and cancer) in the sub-Saharan region.

Overall, the goal of this course is to provide the students an intellectual platform to comprehend the potential adverse effects of foreign compounds into the biological system.

Postgraduate Programmes in Environmental Toxicology

The entire population and environment at large have been confronted with a lot of health challenges emanating from toxicological impacts of oil and gas industries on the environment. There is an urgent need to evaluate not only the sources, but also the health implications and possibly ways of ameliorating or preventing the health effects of such hazardous chemicals using natural antidotes. The postgraduate programme in Environmental Toxicology is designed to offer intensive training in special areas with emphasis on selected research programmes. It will also promote research on suspected and known environmental toxicants with emphasis on multidisciplinary approaches, provide education and laboratory training at the postgraduate level and facilitates exchange of scientific information relating to molecular and medical Toxicology, environmental and public health issues especially as it relates to the Niger Delta, Nigeria and sub-Saharan Africa.

Lack of equity, excellence and integrity noted in handling some of the effects is compounded by the paucity of highly skilled and motivated health professionals who are equipped with current knowledge, skills and competencies required for conducting cutting-edge research in toxicology that would help mitigate the public health issues arising from oil and gas exploration in Nigeria. This can be achieved by developing high calibre manpower, with the requisite teaching skills and research abilities, to handle the public health and environmental challenges hindering sustainable development in regions of Africa where oil and gas activities are on-going.

Rationale for the Graduate Programme in Environmental Toxicology

The rationale for the graduate programme in Toxicology is to bridge the gap and dearth of adequately trained environmental toxicologist by impacting in students current knowledge, skills and competencies required to improve the practice of toxicology; produce cutting-edge research projects in toxicology to solve toxicological issues arising from oil and gas activities and undertake consultancy and community services to educate the use of natural antidotes to reduce the threat of such environmental toxicants. This proposed programme of study is intended to address this gap by training individuals who want to develop their expertise in Environmental Toxicology.

Aim and Objectives of the Post Graduate Programmes in Environmental Toxicology

The aim of the post graduate programmes in Environmental Toxicology is to provide the student with the latest scientific information on the various toxic effects of such environmental pollutants (air, soil and water) to both human and other living creatures and the skills for assessment and use of natural antidotes to reverse such effects. The specific objectives include:

- To provide training in both health-related toxicology and environmental toxicants that would enable the graduates to identify the risks to health and environments.
- To provide the training that would empower the graduate to halt the identified health and environmental hazards.
- To adapt this training in environmental toxicology to the diverse backgrounds and anticipated future careers of the students.
- To award the degree to individuals who have acquired a depth of knowledge in toxicology.
- To provide training in the methods of scientific enquiry for candidates interested in and can pursue academic career in research and /or teaching
- To provide graduate students with advanced knowledge and skills needed to meet the ever increasing national and international manpower need in Toxicological training and research.
- To produce thoroughbred professionals with doctorate degree (PhD) via entrepreneurial research, innovative teaching and assessments methods who will play leading roles in bridging the gap and dearth of adequately trained environmental toxicologist in academia, private industries and governments agencies

Intended Learning Outcomes

The intended learning outcomes on successful completion of the various trainings in Environmental Toxicology are:

- a) Know the concept of Environmental Toxicology and its involvement in public health challenge in Nigeria;
- b) Describe the health hazards in the environment as a result of oil and gas, and its possible outcome
- c) Carry out studies to identify prevalent environmental problems emanating from oil and gas pollutants in the community and determine the effective means of solving them;
- d) Disseminating information on the use of natural resources to mitigate some of the problems emanating from oil and gas activities on the general public.
- e) Exhibit the highest principle of public health ethics in the development of abatement programmes for identified environmental health hazards.
- f) Carry out a research project in any area of Environmental Toxicology.
- g) Develop the spirit of teamwork amongst other members of the environmental/toxicology team to ensure common goal in achieving toxic free environments is realized.

Admission Requirements

1. Candidates admitted into any of the PhD programme should have:
 - Successfully completed a relevant Masters' degree with a CGPA of not less than 3.5 on 5.0-point scale
 - Presented a statement of purpose which should also contain the proposal for the research he or she is intending to undertake
 - Provide two letters of recommendation, one of which must be from an employer or supervisor and the other from the university where the candidate obtained the master's degree
 - Be found suitable for admission after an interview by the Postgraduate Degree Committee of the Faculty
 - Candidates with master's degrees in food science and technology, food microbiology and other related courses may apply for the PhD in nutritional biochemistry/ toxicology
2. Each candidate for the PhD programme shall be assigned at least 2 supervisors who have researched and published extensively in the candidate's intending area of research. The main supervisor shall take the lead in providing direction for the research
3. The candidate shall be provided a pathway which shows an interactive timeline of his or her key progression milestone specific to the research programme. Candidates who have an interruption, extension or changed their milestones would need to update their new progression milestone deadlines with the Postgraduate Committee in the department

Programme Titles

- Doctor of Philosophy (PhD) in Environmental health,
- Doctor of Philosophy (PhD) in Environmental toxicology
- Doctor of Philosophy (PhD) in Nutritional Biochemistry/ Toxicology
- Doctor of Philosophy (PhD) in Midwifery
- Doctor of Philosophy (PhD) in Child Health Nursing

Available options

Full time – three years (minimum)

Part-time – Five years (minimum)

Full Time Admission

Full-time admission is offered only to candidates who can satisfy PUTOR and the School of Graduate Studies that they are not in any employment, or that they have been relieved by their employers to undertake full-time studies. It covers a minimum period of three years.

Part Time Admission

All part-time candidates can continue to engage in approved employment but shall submit evidence that they can devote a good proportion of their normal working years to their studies and satisfy the PUTOR Graduate Studies Committee that they would be available for attendance at courses and for regular consultations with their supervisors. It covers a minimum period of five years.

Graduation Requirements

To qualify for the award of the PhD, the candidate must have successfully completed all the prescribed courses in the programme, completed a dissertation under supervision, published a minimum of two (2) journal articles from their work in a reputable journal before their external defense and must have attended a minimum of one (1) scientific conference. These are in addition to meeting other requirements as specified by the School of Graduate Studies in the University of Port Harcourt.

Doctoral Continuation Report and Viva

1. The doctoral candidate shall provide a progress report on training and detailed proposal for the doctoral research at the end of the first year of the doctoral programme which would be assessed at a viva session before at least two internal assessors assigned by the Centre's Management.
2. The continuation report shall contain a summary of the candidate's progress in the taught courses and research protocol including the plan for the remaining period of the programme.
3. The internal assessors assigned to each candidate shall determine if (i) determine if the candidate had made sufficient progress in the taught courses (ii) Certify if the research protocol is sufficient for a PhD programme and (iii) provide advice on the way forward for the doctoral programme for the candidate.
4. General advice will also be provided on areas the candidate may need to adjust the scope of the research in order to be suitable for the award of a doctoral certificate

Doctoral Dissertation

Refer Centre's Guide to Postgraduate Thesis/Dissertation Preparation, Submission and Examination

Submission of protocol

In consultation with his/her main supervisor;

- The candidate shall notify the Centre Leader in writing of the title and full protocol of his or her dissertation.
- Be prepared to defend the proposal before the Academic Board of the Centre
- Candidates are expected to request for a review of their proposals by the University's Ethics Review Committee

Doctoral Dissertation Defense

1. For the final defense of the doctoral dissertation, the Board of the school of Graduate Studies Committee shall approve external examiners for the defense. The Board of examiners for each defense shall consist of the Dean of the School of Graduate Studies (or representative), the Centre's Leader, the Centre's Academic Coordinator, the main supervisor and the external examiner.
2. The defense shall involve a short PowerPoint presentation on their research by the candidate before the viva voce.
3. The examiners shall submit a joint report on the candidate to the Dean of the Graduate School. The report shall contain:
 - i. A clear and detailed evaluation of the research as contained in the dissertation, including an assessment of the originality, methodology and its contribution to the advancement of knowledge;
 - ii. A clear assessment of the candidate's knowledge and understanding of his/her subjects as shown in the dissertation and oral examination;
 - iii. An unequivocal declaration as to the acceptability or otherwise of the dissertation in fulfillment of the requirements of the degree;
 - iv. In case of difference of opinion, the examiners shall submit separate reports to the Centre's Academic Committee, which shall make an appropriate recommendation to the Centre's Board and to the School of Graduate Studies.

Credits for doctoral programme

- Taught courses and seminar – 21 credits
- Dissertation – 12 credits
- Total credit – 33 credits

The School of Graduate Studies has already approved all the course outlines for the PhD programme. The courses for the programmes are outlined below:

List of courses, code and credit units

Area	Course	Code	Unit
General	Entrepreneurship	PUT 901	3
	Advanced Biostatistics and Data Science	PUT 902	3
	ICT, Technical Writing & Presentation Skills	PUT 903	3
	Environmental Epidemiology, Exposure Science & Risk Assessment	PUT 904	3
	Seminar	PUT 905	3
	Research Methods	PUT 906	3
	Research Project	PUT 907	12

Environmental Toxicology	Environmental Toxicology	PUT 908	3
Nutritional biochemistry/toxicology	Advanced Nutritional Biochemistry	PUT 909	3
Environmental Health	Analytical Methods in Environmental Health	PUT 910	3

Courses description

PUT 901- Entrepreneurship (3 units)

This course teaches how to recognise, analyse and develop business opportunities. It will expose students to the various aspects of commerce – accounting, finance, marketing, management as well as the relevant legal and regulatory frameworks. The course will also introduce the students on

- Ways of commercializing their research outputs and how they can develop knowledge enterprise.
- Understanding the dynamic role of entrepreneurship and small businesses
- Organizing and Managing a Small Business
- Financial Planning and Control
- Forms of Ownership for Small Business
- Strategic Marketing Planning
- New Product or Service Development
- Business Plan Creation
- Challenges of doing business in Nigeria and other developing countries
- Research as an enterprise

PUT 902 - Advanced Biostatistics and Data Science (3 units)

This course teaches the concepts of biostatistics and the application of biostatistics in real world issues. Statistical methods and principles necessary for understanding and interpreting data used in public health and policy evaluation and formation. Topics include:

- Descriptive statistics, graphical data summary, sampling, statistical comparison of groups, correlation, and regression.
- Probability and advanced statistical theories
- parametric and non-parametric statistics,
- Poisson distribution, Regression modeling, statistical software appreciation and bioinformatics.
- Data Science introduces the concept and tools needed in turning open and real-world data into solving real world problems via mastering data communication, data investigation, data wrangling, cleaning, sampling, exploratory analysis and data Visualization skills.
- Students will learn the powerful statistical program in R and how to use R for effective data analysis and statistical programming. The course will also cover practical issues in statistical computing with R, especially in reading data into R, accessing R packages,

writing R functions, debugging, profiling R code, and organizing and commenting R code.

PUT 903 – ICT, Technical Writing & Presentation Skills (3 units)

The purpose of the course is to familiarize the participants with academic writing, grammar & syntax, critical thinking and problem-solving skills, summarizing, paraphrasing journal critique techniques and preparation of manuscripts and dissertation reports. Preparation and presentation at conferences and scientific meetings.

Participants would also be exposed to various statements/guidelines/checklists for reporting academic manuscripts such as:

- CASP – Critical Appraisal Skill Program
- CONSORT – Consolidated Standards of Reporting Trials
- PRISMA – Preferred Reporting Items for Systematic Reviews and Meta-Analysis
- ENTREQ – Enhancing Transparency in Reporting the synthesis of Qualitative research
- COREQ – Consolidated criteria for Reporting Qualitative Research
- CARE – Case Report guidelines
- SQUIRE – Standards for Quality Improvement Reporting Excellence
- STROBE – Strengthening the Reporting of Observational Studies in Epidemiology

ICT and Presentation Skills

Writing a Draft Journal Article

PUT 904: Environmental Epidemiology, Exposure Science & Risk Assessment

The candidate will study the principles and practice of advanced epidemiology and general concepts of assessing environmental exposures to chemicals in human populations. This course will also teach natural and environmental toxicants; food toxicology and carcinogens; mutagens, teratogens, allergens; neurotoxins, endocrine disruptors; detoxification of toxicants; microbial and insects' metabolism of xenobiotics; metabolism as a determinant of toxicity and assessment of toxicity; metabolism of hydrocarbons and other toxicants; human exposure to environmental contaminants;

Course Content

- Introduction to principles and practice of epidemiology
- Confounders, effect modification/interaction, causal inferences, outbreak investigations,
- Geo-mapping/GIS, surveillance, receiver-operating characteristics curve, and surveys
- The design of ecologic and personal monitoring studies
- The techniques and equipment used for sampling and analysis, and interpretation of data.
- The linkages among external concentrations, spatial and temporal parameters,
- Risk assessment: concept and models
- Recent topics in risk assessments
- Food safety;
- Modern environmental health hazards in non-communicable diseases
- Biomonitoring; metals in diseases; metal toxicology: lead, mercury, cadmium, arsenic, chromium, nickel, vanadium, cobalt, manganese, iron, copper, etc;
- Persistent organic pollutants (POPs) and dioxins
- Plastics toxicology

- Soot and aerosol toxicology; ozone, a criteria air pollutant; Natural antidotes; Unraveling toxic mechanisms
- Biomarkers for toxic effects; predictive toxicology; regulatory aspects; introduction to systems biology; definition of fundamental concepts;
- Cognitive effects of early exposure to environmental toxins, such as hydrocarbons, heavy metals, methylmercury, and other environmental toxicants on children and infants including exposure via breast milk

PUT 906 – Research Methods (3 units)

This course acquaints the students with principles and practice of advanced research methods in public health practice. Broad areas include systematic review, meta-analysis, meta-synthesis, quantitative and qualitative surveys, advanced literature search and data synthesis

Course Content

- Research Process, Designs, and Human Subjects Protection
- Research Question and Literature Review
- Data Collection and SPSS
- Descriptive Data Analysis
- Inferential Data Analysis
- Reporting the Results
- Interpreting the Results
- Thinking Skills for conduct of research

PUT 909 - Advanced Nutritional Biochemistry (3 Units)

This course is aimed at providing candidates with the principles of human nutrition. It is also aimed at providing an integrated overview of the physiological requirements and functions of protein, energy, and the major vitamins and minerals that are determinants of health and diseases in human populations. This course will also highlight principles of food and nutrition science relative to the health and well-being of the individual and the community. The chemical composition and functions of the essential nutrients, and how they are processed and utilized in the body. Dietary habits, nutrient requirements, food choices, healthy eating practices will also be highlighted. This course will also cover all theoretical/practical aspects of nutritional status assessments such as anthropometric measurement, dietary assessment etc. Screening topics will include the following:

Introduction to Nutrition : The need for food; Dietary sources, intake levels, physiological role, and requirement of major nutrients; The biological determinants of nutrient requirements and the assessment of nutritional status in individuals and the populations; The role of nutrition in growth and health through the life cycle; The rationale for the development of dietary guidelines and nutrition policies in different countries; Nutrition and Biotechnology; Community nutrition; Maternal, infant and child nutrition; Nutrition in Health and Disease; Nutritional Epidemiology; Nutritional Assessment; Molecular Nutrition; control of food intake and regulation of body weight, as well as animal models of obesity; factors that affect the absorption, metabolism and storage of Vitamin A, as well as the association between Vitamin A deficiency and disease; Effects of nutritional alterations—for example, iron deficiency, folate alterations and PUFAs—on mortality, work capacity, and behaviour and cognitive functioning; Nutrition and physiological state (growth, reproduction, pregnancy, lactation etc.) and nutritional disorders of metabolic origin

PUT 912 - Analytical Methods in Environmental Health (3 Units)

Students in this course learn the skills, methods and critical thinking framework necessary for upper level environmental health courses and for success as public health professionals. Environmental Health is a field of public health in which environmental hazards and health risks to populations are identified, assessed and managed through a data-driven process. This course would introduce students to:

- Nature of the physical, social and biological environment
- Human ecology
- Advance environmental forensic
- Methodologies and techniques to obtain data in environmental health
- Sampling, handling/storage of samples, sample preparation and determination.
- Advanced environmental analysis in connection with advanced statistical methods including pattern recognition, multivariate statistics and experimental designs

PUT 905 - Seminar (3 Units)

Seminar presentation on specified aspects of research will be presented such as literature review, public health significance, key findings and implications and finally present research for external defense.

PUT 907 – Research Project(12 Units)

The dissertation will be an outline PhD proposal and a small piece of empirical work. The research proposal should indicate what the PhD might be along with, what the empirical work might be. The candidate's research will be supervised by academic and/or industry member of staff. The format of the report shall be in accordance with the existing guidelines from the School of Graduate Studies.

Centre Registration

Students who have been admitted into any of the training programme in PUTOR are expected to undertake a non-audit cause tagged 'foundation to graduate studies in PUTOR' This follows their acceptance of admission and required registration. The students are expected to come along for registration with

- Admission letter
- Copies of their credentials – original and photocopies
- Evidence of payment of all fees and dues.

The Centre's registration process would involve filling of necessary forms and submitting relevant documents which would all be contained in the student's file in the Centre. Candidates are expected to come with all their academic credentials and evidence of release (for those in paid employments)

Academic Regulations

General objectives of courses

All courses offered shall explore:

- New developments in technology, policy and process;
- New concepts and practices in education for sustainable development;
- Address regional, national and global perspectives and consider issues bordering on bioethics, poverty eradication, development and growth, unemployment and employability, energy crises, overpopulation, etc.

Academic session

An academic session consists of two semesters. Each semester normally comprises of 17 weeks of teaching and examination.

Modular training system

The courses shall run on modular basis but still based on the course unit system. All courses are designed as modules that would start and end anytime within the session/semester. Typically, each course would be assigned 1-month block period for teaching and examination shall come any time after the completion of each course. Credit weights shall be attached to each course.

Definition of credit unit

Credits are weights attached to a course. One credit is equivalent to 15 hours class contacts (e.g. one hour per week per 15 weeks of lectures or tutorial). In addition to the class contact hours, all students are expected to invest on assigned minimum private study hour to make the best of every course.

Timetable

Lecture timetables are released at least two weeks before the first day of lectures. For large classes, the different streams shall be allocated the same slot on the timetable and the streams taught in parallel classes running at different venues

Training Methods

A blended approach involving several innovative learning and instructional strategies are deployed in the Centre of Excellence in order to achieve the learning objectives of each modules. The specific strategies applicable to each module as stated in the description of the module are based on the needs to enhance students' participation based on recognised learning styles.

- Didactic lectures
- Tutorials and Discussions
- Group activities
- Seminars
- Field visits to places of public health importance including health-related institutions and industries
- Competency-based learning and reflection

- Community-based field training - Health surveys involving households, under-fives, primary school, and secondary school in both rural and urban communities; outbreak investigation, job setting – real situations or through simulations
- Research project
- Practical – both public health-related and computer training
- Self-directed learning.

Attendance and Participation

Logbook and attendance.

It is the responsibility of the student to document all training activities and progression in the manual or electronic logbook that would be used throughout their training and ensures that he/she:

- Attends all lectures, which may be signed by the respective instructor(s) in his/her logbook.
- Attends all clinical field activities that are carried out and should be signed by the supervisors
- Attends and participates actively in all group activities including community service
- Completes a project approved by the Centre and duly certified by the project supervisor

Attendance at all training activities is mandatory and only students that make at least seventy-five percent (75%) attendance and participation in all activities, duly certified by lecturer/supervisor shall be eligible to sit for the examination.

Regulations during lectures and visits

In the course of attending any outside visit or post, kindly note that you [course member] are ambassadors of the university. Please remember the following:-

- a. Punctuality is essential, and you must be in the venue at least 5 minutes prior to the visit's commencing. If you are late for a session you may not enter the room but wait for the next break.
- b. You should attend for the whole of the visit and may not leave early. If you cannot attend the whole session, please do not attend.
- c. Please do not use laptops to surf the internet or make/answer phone calls during lectures/visits. All phones must either be switched off or be on silent mode.
- d. No talking during the lectures. Talking disrupts the class and may distract the presenter
- e. No eating or drinking of anything other than what may be provided at specified times
- f. Do not ask unnecessary questions. Question sessions are designed to give opportunities for clarifications of certain aspects of the visit you have not understood and not opportunities for general inquiries. You can consult other available resources for answers to some of the questions you may have outside of the presentation.

All students are expected to attend and participate fully in all components of the course for which they are registered unless excused, for good cause. The University's regulation is that

all students obtain 75% attendance record and complete all the assessments associated with the course. Failure to make up the attendance or complete assessments will mean that the student will not normally be eligible for the award of a degree of the University other than at the discretion of the examiners and college authorities.

Dissertation

The candidate must design and execute an acceptable original project in any area related to his/her discipline under supervision of academic staff and in some cases additional supervision from industry/sector expert. The project would commence during the first year of the programme for PhD students. The details of the preparation, submission and examination of thesis in the Centre are contained in the Centre's Guide to Dissertation.

Seminar

Postgraduate students are expected to prepare and present some seminars in the course of their training. Some of these seminars are related to the educational components of the candidates' thesis/dissertation and are presented before the entire faculty and students in the Centre.

Instructions for the seminar

Students are to note the following salient information with respect to the seminar:

- Drop two loose copies of the work (in words) with the Centre's Academic Coordinator and send a copy by email to academic@aceputoruniport.edu.ng not later than two weeks to the date fixed for the presentation
- Venue and date for the presentation will be sent to all the candidates along with other useful information on the seminar about two weeks to the date of the seminar.
- Students are to confirm their eligibility for participation in a seminar or report any change in their circumstance to the respective programme coordinator at least 4 days to the date of the seminar.
- Presentations shall be by power points and shall last for maximum of **15 minutes** while the subsequent discussions shall last for a maximum of **20 minutes**
- For group presentations, all members of the group may not necessarily be part of the presentation but must be involved in the subsequent discourse.
- Discussions would be based on the broad areas related to the subject being presented
- Candidates are to report to the venue of the presentation in formal dressing at least one hour to the time and ensure that all logistics and technical aspects of the presentations have been sorted.

Seminar scoring

Scores would be assigned as detailed below

- Internal assessors scores
- Participating assessors scores

While the scores of the internal assessors may be based on the technical considerations (structure and content) before the presentation, the participating assessors' scores may include considerations to actual presentation and discussion

Examinations

Assessment planning procedures

All taught courses are examined in accordance with the university's regulations on assessment. The date, venue and structure of the final examination for each module shall be included in the course schedule sent to students at least two weeks before the commencement of the module. The examination questions are prepared by the responsible instructors at the end of the various courses. Invigilation of final examination shall be arranged by the programme coordinating unit. It is pertinent to note that the date and venue for examination can be adjusted with the consent of both the instructors and students.

Grading during course

Continuous Assessment (30 %). This can be in various forms such as:

- Attendance at classes
- Seminar presentation
- Assignments and coursework during lectures or postings
- Participation and performance during class work or practical activities
- Written assessments

Grading during final examination

Final Examination at the end of the posting (70 %)

- Shall be in the form of Essay, MCQs, Practical, and Orals and would be 70%.

Pass mark

The minimum pass mark in any course shall be 50%

Grading system

Grading of courses shall be by a combination of percentage marks and letter grades translated into a graduates' system of Grade Point Equivalents (GPE).

Computation of Grade Point Average

Every course carries affixed number of credit units (CU), one credit unit being when a class meets for one hour every week for one semester, or three hours every week in the laboratory, workshop or field.

Quality point (QP) are derived by multiplying the credit units for the course by the Grade points; earned by the students: e.g., in a course with 3 Credit Units in which a student earned a B with 4 Grade Points; the Quality Point is $3 \times 4 = 12$.

Grade Point Average (GPA) is derived by dividing the Quality Points for the semester by the Credit Units for the semester: e.g., in a semester where the students earned 56 Quality Points for 18 Credit Units, the GPA is $56 \div 18 = 3.11$.

Cumulative Grade Point Average (CGPA) is derived by adding the Total Quality Points (TQP) to date and dividing by the Total Credit Units (TCU) to date: e.g., if the TQP is 228 and the TCU is 68, then the CGPA is $228 \div 68 = 3.35$

Detailed examples of how to calculate GPA and CGPA are shown below

Grade obtained in all approved courses of a student's prescribed programme, excluding audited courses, shall be used to compute the GPA.

When a student transfers from a faculty to the Centre, only the grade obtained in the courses in the new programme of study will be used to compute the CGPA. Courses which were completed before the change of programme will be treated as audited courses.

When a student transfers from another University, only the grades obtained at the University of Port Harcourt will be used to compute the CGPA.

Each course shall be graded out of a maximum of 100 marks and assigned appropriate Grade Point Equivalent as in the table below:

(i) Credit units	(ii) Scores	(iii) Letter Grades	(iv) Grade Points (GP)	(v) Average (GPA)
Vary according to contact hours assigned to each course or according to load carried by students	≥ 70 60 – 69 50 – 59 0 - 49	A B C F	5 4 3 0	Derived by multiplying i and iv and dividing by Total Credit Units

Examination resit policy

A resit means that a student had failed a course and is required to undertake a second attempt of that course without further teaching input. The programme allows resit of continuous assessment and examination. The resit examinations is completely a different piece of assessment and shall be arranged within three months of seating for the original examination. Scores of examinations undertaken during resit shall be capped at 50%. Students are not allowed to resit courses which they have passed. If the mark attained during the resit is lower than that of the first attempt, the resit score will still be recorded. Any candidate who fails to attempt a resit assessment during the allotted period without prior approval from the Centre administration will earn a mark of "0". A student who successfully applied for exemption from the original scheduled examination based on extenuating circumstances shall be accorded a 'first attempt' status and have the full marks recorded during the resit examination. In the event of another fail during the resit examination, a student would be allowed to repeat the course during the next opportunity the course is taken. This is subject to payment of tuition fee for the additional year and the discretion of the Centre Academic Board. The latter is without prejudice

to the University regulation on the length of stay of students in various programmes in the University.

Other regulations of examination

In accordance with the Statement of Academic Policy of the University herein stated in this Regulation, the following terms shall mean

- I Invigilators: These are those who conduct examinations.
- ii Supervisor: This is the most senior lecturer among the Invigilators
- iii Examiners: These are the course lecturers.
- iv Examination Officers(s): The examination officer(s) oversee(s) the conduct of all examinations in the Department and upload(s) Senate approved results on the University portal.

- The examination timetable shall be released at least three weeks before the scheduled date of the start of examinations. Scheduled times and dates for examinations must be adhered to. If it is found necessary to reschedule an examination, this must be with the permission of the Academic Coordinator and Centre Leader.
- Examiners should ensure that the question papers are prepared under conditions of maximum security and are ready on time. For all examinations, well-packaged question papers must be accompanied by a list of Supervisors, Invigilators and the relevant forms. The Examiners should ensure that the question papers, adequately packaged and sealed, are submitted to the Supervisor, at least, one hour before the start of the examination.
- Subject only to administrative supervision by the office of the Centre Leader, the conduct of course examinations shall be the responsibility of the Course or Programme Coordinator.
- For each examination, there should be a Supervisor and enough Invigilators, including both male and female Invigilators.
- It is the responsibility of the academic coordinator to appoint Supervisors and Invigilators. The list should be forwarded to the Centre Leader not later than one week before the examinations. Students should be seated according to their registration numbers, and they should be invigilated by academic staff from the Centre.
- Supervisors should be appointed from the rank of Senior Lecturer, and above and Invigilators should be other members of academic staff. Part-time teachers, where necessary, are also regarded as Examiners.
- Supervisors must identify and check students into the examination hall using the authenticated register of students for that course. The student must show the invigilator his/her registration/identity card on entry to every examination. He/she must leave this on the desk throughout the examination for easy inspection by the invigilator.
- All examination scripts used by the students must be endorsed by the Supervisor at least 30 minutes after the commencement of the examination.
- The Invigilator must ensure that no student removes from the examination venue any paper or other examination material except the printed question papers where it is allowed. Answer booklets are the property of the University and must not be in the possession of students.
- During examination, the security department should beef up security especially around the examination Centre to ensure that those not involved in the examination are not allowed to loiter around the examination halls.
- No unregistered student is authorized to take any examination.
- A student should be in the examination room at least 30 minutes before the start of the examination. A student who is up to 30 minutes late shall be admitted but shall not be given

any extra time. A student who arrives more than 30 minutes after the start of the examination shall not be admitted. A student may be allowed to leave the examination room temporarily before the end of the examination, but must NOT:

- do so during the first hour of the examination except in cases of emergency like illness;
 - do so unaccompanied OR with his/her scripts.
- Students must write their names, registration numbers and sign the attendance register within the first hour of the examination.
 - Students must write their registration numbers (not name) at the appropriate places on the cover and pages of the answer booklet.
 - No student shall bring in any handbag, mobile phone, briefcase, books, notebooks, or papers etc. into the examination hall.
 - No student shall directly or indirectly give or accept any assistance during an examination.
 - Students shall stop writing at the end of the allotted time for an examination at the instruction of the Supervisor or Invigilator(s).
 - Anybody who disrupts an on-going examination shall face appropriate disciplinary action.
 - At the end of the examination, the Supervisor/Invigilator shall ensure that the answer scripts are checked, properly packaged, and returned along with relevant forms to the Examiner.
 - A member of staff who fails to turn up for invigilation shall be queried for this act in the first instance. If this is repeated during another period of examination, the member of staff will lose the next promotion and be warned in writing by the Vice-Chancellor.
 - The Centre Leader shall report any defaulting Invigilator to the Provost/Dean, whose responsibility it is to forward the report to the Vice-Chancellor.
 - These examination regulations apply to all students studying for the award of University of Port Harcourt Degree, Certificate and Diploma.

Code of conduct during Examination

1. It is the responsibility of each individual student intending to take any university examination to ascertain the date, time and the venue of the examination as indicated in the examination timetable. Candidates must present themselves at the examination venue thirty (30) minutes to the scheduled time of commencement of the examination.
2. Candidates will not be admitted to examination hall after the examination has been in progress for thirty (30) minutes. Candidates will not also be allowed to leave the examination hall during the first thirty (30) minutes and the last fifteen (15) minutes of an examination.
3. Candidates will not be permitted to start an examination until formally instructed to do so by the Examiner/Invigilator in-charge of the examination.
4. Candidates wishing to leave the examination hall must obtain the express permission of the examiner/invigilator before doing so. Any candidate permitted to leave an examination hall temporarily must hand over his/her question paper(s) and answer script(s) to the examiner/invigilator and must be accompanied by the examiner/invigilator or a person appointed by the examiner/invigilator.
5. Candidates may take printed materials or manuscripts into an examination hall when it has been previously announced in the examination timetable and when it is stated in the instructions to the question paper that such materials may be used.
6. All briefcases and other materials not associated with the examination must be deposited at a designated place. Candidates will however, be allowed to use their own mathematical

instruments/tables and such other aids for drawing as the examination/invigilators may permit.

7. The use of mobile phone, electronic programmable calculator, information storage devices calculator instruction manuals, textbooks, atlases, lecture notebooks, etc shall not be allowed in the examination halls.
8. Candidates must sit at the desk assigned to them by the invigilator. The university administration will not condone any swapping of seats by candidates.
9. It is compulsory for candidates to sign the examination attendance register when the examiners/invigilators present to them during the examination
10. Candidature must ensure that their answer scripts are handed over to the examiner/invigilator before leaving the examination hall
11. Smoking, chewing of gums and the consumption of food and drinks are not permitted during the examination
12. All questions in written examination must be answered in simple English unless instructions on the question paper indicate otherwise
13. It is an academic offence punishable by expulsion from the university for any candidate(s) to prevent other candidate(s) from taking scheduled university examinations or cause obstruction to examination processes.
14. Any candidate unable to sit for an examination on account of illness duly certified by a medical authority approved by the University's Director of Medical Services may be allowed to take the examination at the next period as first attempt. The affected candidate shall notify the Dean, School of Graduate Studies through the Centre Leader of this fact and shall submit a valid medical certificate to be authenticated by the Director of Medical Services.

Documentations related to examination

At the commencement of examination

The following materials should be made available before commencement of each examination

1. The answer sheets
2. The question papers
3. The course evaluation form
4. The student attendance sheet which should be signed by all students present for the examination
5. The invigilators' attendance sheets should be signed by all invigilators (academic and non-teaching) present during the examination
6. Incident sheet for examination misconduct

Immediately after the examination

1. The answer sheets should be counted by at least two invigilators who must sign to authenticate the number of scripts on the envelop meant for each question.
2. The course evaluation forms should also be counted and packed in a separate envelop
3. A copy of the question paper, the students' attendance sheet, the invigilators' attendance sheet, the completed course evaluation forms, filled incident sheet for examination misconduct (if any) should be sent to the Centre leader through the secretariat staff present during the examination

Two weeks after examination

The marked scripts, marking scheme and result should be handed over to the programme coordinator by the course coordinator. Lecturers and coordinators who have submitted their marked scripts, marking scheme and results would be paid all entitlements immediately.

Four weeks after examination

The programme coordinator sends the marked scripts, marking scheme and results to the Centre leader.

Documents kept in the Centre's record each course

1. Question paper
2. Marking scheme
3. Result
4. Signed attendance sheet by students
5. Signed attendance sheet by supervisors
6. Completed course evaluation forms
7. Completed examination misconduct incident form

DETAILED COURSE DESCRIPTION ENTREPRENEURSHIP



HOST: AFRICA CENTRE OF EXCELLENCE, CENTRE FOR PUBLIC HEALTH

DATE

PUT 901

3

**MODULE LOCATION
UNIVERSITY OF PORT HARCOURT**

No. OF WEEKS: 4

PRE-REQUISITES: Management and Entrepreneurship (SCI 801)

MODULE DESCRIPTION

This course teaches how to recognise, analyse and develop business opportunities. It will expose students to the various aspects of commerce – accounting, finance, marketing, management as well as the relevant legal and regulatory frameworks. The course will also introduce the students on ways of commercializing their research outputs and how they can develop knowledge enterprise. Some important contents of the course include: understanding the dynamic role of entrepreneurship and small businesses; organizing and managing a small business; financial planning and control; forms of ownership for small business; strategic marketing planning; new product or service development; business plan creation; challenges of doing business in Nigeria and other developing countries research as an enterprise

MODULE EXECUTION PLAN:

This module will use a blended approach to learning involving lectures, e-learning, self-study, demonstration and general discussion. There will be 13 lectures covering 21 topics to be delivered both online and, in a classroom, setting. The online aspect of the course shall commence 2 weeks before the classroom lectures. Students are expected to log-in and participate actively in all activities. The classroom lectures shall run for 5 days (Monday to Friday) between the hours of 9 am and 5 pm. Additional learning experiences shall be in form of group-based tutorial, and individual assignments which shall hold once a week for the entire 4-week duration of the course. Each lecturer shall ensure formative assessment of students learning achievements as well as take feedback on students' experiences with each teaching contact. Assignments (formative and summative) shall comprise individual works and small group activities. Formative assessment shall be conducted to cover the entire module and a final summative assessment shall be undertaken by students which will cover the entire syllabus of the module.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

	Activity type	A (Applicable)/ N/A (Not applicable)	Contact hours
1	Lectures (L)	Applicable	20

2	Tutorials (T)	Applicable	6
3	Seminar presentation (SP)	Applicable	6
4	Course paper/assignment (CP/A)	Applicable	40
5	Practical/demonstrations (PR)	Applicable	8
6	Self-directed learning	Applicable	40
7	Group activities	Applicable	10

CONTENT/ACTIVITY SCHEDULE

	ACTIVITY TYPE	TOPIC	CONTACT HOURS	INSTRUCTOR
1	Lecture	Overview of Entrepreneurship ---the structure of the Nigerian economy ---why Entrepreneurship? ----domains of Entrepreneurship	2	
2	Lecture & Practical	Opportunity identification Entrepreneurship and Innovation	4	
3	Lecture & Practical	Opportunity Evaluation and Product Development ---sources and types of opportunities ----analysing opportunities	6	
4	Lecture & Practical	Strategy and Business models --growth model --income model	4	
5	Lecture	Industry/ Marketing Research	4	
	Lecture	Entrepreneurial Finance & Accounting	2	
	Lecture	Business plan & Balance Sheet	1	
	Lecture	Entrepreneurial thinking and acting	1	
	Lecture	Practical session- New Venture creation	1	
	Lecture	Entrepreneurship- Yesterday, Today and Tomorrow.	1	
		Legal issues for the entrepreneur		
	Lecture	Research as an Enterprise – proposal writing, education and research enterprise, research funding and knowledge economy, research challenges, intellectual property issues in research, the economics of scientific research	1	
	Lecture	The commercialization process – commercialization, innovation and commercialization of University Research Technology Transfer, commercialization challenges	2	

MODULE ASSESSMENT

FORMATIVE

This shall be based on performance of the student in class participation, seminar presentation, discussion and home assignments. This is essentially for monitoring teaching and learning progress, feedback, and remediation.

SUMMATIVE

This shall be constituted by the final written examination which shall include multiple choice questions, essay-style questions and computer-based practical examination. The combination of these would constitute the final examination score. The date for the final examination shall be as scheduled in the session calendar and according to the examination timetable which shall be released as at when due.

RESIT EXAMINATION

A student who fails to obtain a mean score of 50% and./or fail to satisfy the requirement for 'Pass' in this module will be entitled to re-assessment in a re-sit examination with three months later. However, during the three months of preparation, the student must be given opportunity for fresh continuous assessment scores. The same criteria for the main examination shall apply to the re-sit examination.

ADVANCED BIOSTATISTICS & DATA SCIENCE



DOCTORAL PROGRAMME

DATE

3

MODULE LOCATION

UNIVERSITY OF PORT HARCOURT

No. OF WEEKS

4

PRE-REQUISITES:

Prior knowledge of basic statistics.

MODULE DESCRIPTION

This course teaches the concepts of biostatistics and the application of biostatistics in real world issues. Statistical methods and principles necessary for understanding and interpreting data used in environmental health and policy evaluation and formation. Topics include descriptive statistics, graphical data summary, sampling, statistical comparison of groups, correlation, and regression.

Course Content

- Probability and advanced statistical theories
- parametric and non-parametric statistics,
- Poisson distribution, Regression modelling, statistical software appreciation and bioinformatics.

Data Science introduces the concept and tools needed in turning open and real-world data into solving real world problems via mastering Data communication, data investigation, data wrangling, cleaning, sampling, exploratory analysis and data Visualization skills.

Students will learn the powerful statistical program in R and how to use R for effective data analysis and statistical programming. The course will also cover practical issues in statistical computing with R, especially in reading data into R, accessing R packages, writing R functions, debugging, profiling R code, and organizing and commenting R code.

MODULE AIMS

- To guide students on proper methods of design of experiments, data collection/collation
- To introduce students to statistical methods in public health research.
- To provide guidance on various scientific methods of analyzing public health statistical data.
- To introduce students to data analysis using various statistical software packages like SPSS, R, Minitab, etc.

INTENDED LEARNING OUTCOMES

On successful completion of this module student should be able to:

- 1) interpret results to suit experimental objectives.
- 2) present research / study results and inferences therein.
- 3) correctly perform basic descriptive statistics on public health data.

- 4) effectively design simple survey to obtain public health data.
- 5) analyse data using the parametric tests.
- 6) analyse data using different statistical software.

MODULE EXECUTION PLAN:

This module shall consist of 14 lectures covering 21 topics to be delivered in a classroom setting. Additional learning experiences shall be in form of group-based tutorial, and individual seminar presentation which shall weekly or on prearranged dates for the duration of the course. Each lecturer shall ensure formative assessment of students learning achievements as well as take feedback on students' experiences with each teaching contact. Assignments (formative and summative) shall comprise individual works and small group activities. Formative assessment shall be conducted to cover the recently completed series. At the end of the module, a final summative assessment shall be undertaken by students which will cover the entire syllabus of the module.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

	Activity type	A (Applicable)/ N/A (Not applicable)	Contact hours
1	Lectures (L)	A	23
2	Tutorials (T)	A	3
3	Seminar presentation (SP)	A	8
4	Course paper/assignment (CP/A)	A	4
5	Practical/demonstrations (PR)	A	6
	Self-directed learning	-	-
6	Others, pls specify	-	-

CONTENT/ACTIVITY SCHEDULE

	ACTIVITY TYPE	TOPIC	CONTACT HOURS	INSTRUCTOR
1	Lecture	Review of Descriptive Statistics	1	
2	Lecture	Sampling Techniques / Methods	2	
3	Lecture	Concept of Biostatistics	1	
4	Lecture	Probability and Advanced Statistical Theory I: Normal and Binomial Distributions	2	
5	Lecture	Probability and Advanced Statistical Theory II: Poisson and Exponential Distributions	2	
6	Lecture	Parametric Statistics I	2	
7	Lecture	Parametric Statistics II	2	
8	Lecture	Non-Parametric Statistics	1	
9	Lecture	Population Growth Models	1	
10	Lecture	Regression Models I: Simple and Multiple Linear Regression	2	
11	Lecture	Regression Models II: Logistic Regression and Transformations	2	
12	Lecture	Simple Survival Analysis and Clinical Trials	1	

13	Lecture	Correlation Coefficients I: Spearman and Pearson	2	
14	Lecture	Correlation Coefficients II: Partial and Multiple	2	
15	Practical	Statistical Software Application	3	
16	Practical	Statistical Software Application	3	
17	Assignment	Exercise on Parametric tests	NA	
18	Seminar	A statistical analysis using any of the Software	8	
19	Assignment	Exercise on Non-Parametric tests	NA	
20	Assignment	Analyzing sample health data using statistical software application.	NA	
21	Assignment	Analyzing actual public health data using two statistical software applications.	NA	

MODULE ASSESSMENT

FORMATIVE

This shall be based on the discretion of course instructor and may include but not limited to activities such as class participation and hands-on application of software, seminar presentation, take-home assignment and classroom written test.

SUMMATIVE

This shall be constituted by the continuous assessment scores, oral presentation and final examination score. Students shall be notified at least a week before a continuous summative assessment while final examination shall be as scheduled in the session calendar and according to the examination time table which shall be released as at when due. Continuous summative assessment can also be derived from class participation, seminar presentation, course paper/written assignment and classroom written tests. On the other hand, the summative assessment shall variably consist of MCQs, OSCE, Essays, and Practical.

RESIT EXAMINATION

Students whose assignments and course papers are considered unsatisfactory shall undertake compensatory tasks (e.g. write an essay or do a synopsis) to make up for the defect in performance. A student who fails to obtain a mean score of 50% and./or fail to satisfy the requirement for 'Pass' in a module will be entitled to re-assessment in a re-sit examination three months later. However, during the three months of preparation, the student must be given opportunity for fresh continuous assessment scores. The same criteria for the main examination shall apply to the re-sit examination.

RESOURCES (Materials for further readings in addition to the taught content of a lecture)

BOOKS:

1. Rosner. Fundamentals of Biostatistics, 7th Ed.
2. Steel, R.G.D. and Torrie, J.H. Principles and Procedures of Statistics: A Biomedical Approach, 2nd Ed.
3. K. Visweswara Rao. Biostatistics: A Manual of Statistical Methods for Use in Health, Nutrition and Anthropology Jaypee Brothers Medical Publishers (P) Ltd., 1996.
4. Nduka, E.C. and Ogoke, U.P. Principles of Applied Statistics, Regression and Correlation Analysis.
5. Nduka, E.C. Statistics Concept and Methods

JOURNALS:

1. Computational Statistics & Data Analysis (Publisher: Elsevier)
2. The International Journal of Biostatistics (Publisher: De Gruyter)
3. Journal of Biometrics & Biostatistics (Publisher: Omics International)
4. International Journal of Clinical Biostatistics and Biometrics (Publisher: ClinMed International Library)

5. Scientific Journal of Biometrics & Biostatistics (Publisher: ONOMY Science)

WEB-BASED RESOURCES:

1. <https://hpr.weill.cornell.edu/education/programs/biostatistics-and-data-science/curriculum.html>
2. <https://science.ucalgary.ca/data-science/graduate-programs/diploma-health-data-science-biostatistics>

ICT, TECHNICAL WRITING & PRESENTATION SKILLS



HOST: UNIVERSITY OF PORT HARCOURT SCHOOL OF

MODULE TEMPLATE

MODULE LOCATION UNIVERSITY OF PORT HARCOURT	No. OF WEEKS: 4
PRE-REQUISITES:	<p>ICT and Research Methods (SCI 802).</p> <p>Students are encouraged to complete the online course on <i>Good Clinical Practice</i>. A free version of this course can be found in https://shop.crotraining.co.uk/main/courses/view/Free-Good-Clinical-Practice</p> <p>The lectures will hold as synchronous and asynchronous online training. Students are strongly advised to own their laptops and have access to the internet. Students should make plans to obtain the latex software and the SPSS software on their personal laptop</p>
<p>MODULE DESCRIPTION</p> <p>This module will familiarize the participants with academic writing, grammar & syntax, use suitable punctuation and grammar, employ conventions of academic style, achieve a sense of flow in written texts, critically read academic texts, summarise, paraphrase and reference correctly, engage in effective peer review and self-monitoring, critical thinking and problem-solving skills; summarizing; paraphrasing; preparation and presentation at conferences and scientific meetings.</p> <p>Participants will learn to use Microsoft Words (document management functions, layout, formatting, equation, reference) Excel (document management, format cells, formulas, functions, charts, sparklines, , pivot tables, validation, hyperlinks, protecting and sharing worksheet/book), PowerPoint (document management, design, formatting, header/footer, working with text/pictures, creating master slide, screen views, charts, tables, animations, presentation structure), access (designing and viewing databases, tables, relationships, finding/sorting and filtering, queries), project (Microsoft project environment, outlining project – start time, working time, list of task, organising tasks, setting deadlines and constraints etc), common software for statistical analyses (SPSS, R)</p> <p>Presentation skills and writing journal article and dissertation reports - Participants would also be exposed to the act of preparing manuscript in line with the various statements/guidelines/checklists for reporting academic manuscripts such as: CASP (Critical Appraisal Skill Program), CONSORT (Consolidated Standards of Reporting Trials), PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis), ENTREQ (Enhancing Transparency in REporting the synthesis of Qualitative research), COREQ (Consolidated criteria for REporting Qualitative research), CARE (CAsEReport guidelines), SQUIRE (Standards for Quality Improvement Reporting Excellence), STROBE (Strengthening the Reporting of Observational Studies in Epidemiology), Standard Protocol Items for Interventional Trials (SPIRIT), Consolidated Health Economic Evaluation Reporting Standards (CHEERS); STARD (Standards for Reporting Diagnostic Accuracy Studies), MOOSE (Meta-analysis of Observational Studies in Epidemiology), AGREE (Appraisal of Guidelines Research & Evaluation), replicate appropriate thesis structure; journal critique techniques; preparation of scientific manuscripts</p>	

MODULE AIMS

Participants completing this module at the highest level of achievement should be able to:

1. Approach postgraduate education with core knowledge and skills in ICT, academic writing and personal organisation
2. Use ICT effectively for postgraduate research.
3. Prepare various kinds of scientific manuscripts.
4. Demonstrate proficiency in presentation at conference

INTENDED LEARNING OUTCOMES: On successful completion of this module student should be able to:

COGNITIVE:

1. Show good knowledge on the use of ICT as an important component of research and personal development
2. Understand how to write effectively and the content structure and outline for various scientific report
3. Understand how to maintain academic integrity
4. Evaluate and critically appraise academic materials

PSYCHOMOTOR:

1. Ability to use ICT in the conduct and reportage of research
2. Use effective body language such as gestures and facial expressions
3. Perform data entry and mining using appropriate software
4. Create persuasive arguments
5. Interpret academic discoveries

AFFECTIVE

1. Develop a positive attitude to the use of computer
2. Improved appetite for writing and reading academic texts
3. Show self-reliance when undertaking academic exercises
4. Cherish academic discourse, reviews and criticisms
5. Demonstrate belief in academic rigor and systematic ways of getting things done

MODULE EXECUTION PLAN:

This module will use a blended approach to learning involving lectures, e-learning, self-study, demonstration, and general discussion. There will be 31 lectures covering 21 topics to be delivered online. Additional learning experiences shall be in form of group-based tutorial, and individual assignments which shall hold once a week for the entire 4-week duration of the course. Each lecturer shall ensure formative assessment of students learning achievements as well as take feedback on students' experiences with each teaching contact. Assignments (formative and summative) shall comprise individual works and small group activities. The final summative assessment at the end of the course shall cover the entire syllabus of the module.

Students are expected to complete the course evaluation online after taking the final course examination.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

	Activity type	A (Applicable)/ N/A (Not applicable)	Contact hours
1	Lectures (L)	Applicable	20
2	Tutorials (T)	Applicable	6
3	Seminar presentation (SP)	Applicable	6
4	Course paper/assignment (CP/A)	Applicable	40
5	Practical/demonstrations (PR)	Applicable	8
6	Self-directed learning	Applicable	40
7	Group activities	Applicable	10

CONTENT/ACTIVITY SCHEDULE				
	ACTIVITY TYPE	TOPIC	CONTACT HOURS	INSTRUCTOR
1	Lecture	Introduction to ICT for researchers		
2	Lecture & Practical	Appreciating Microsoft tools – Word, Excel, PowerPoint, Access, Project		
3	Lecture & Practical	Use of reference management software (EndNote, Latex)		
4	Lecture & Practical	Statistical Software for research (IBM SPSS)		
5	Practical	Use of Software for data management – Access, MS-SQL or Mongo DB		
6	Demonstration	Formatting scientific reports		
7	Lecture	Academic conventions and academic writing style		
8	Lecture & Practical	Critical reading, critical appraisal/grading evidence		
9	Lecture	Summarizing, paraphrasing literature		
10	Lecture	Referencing		
11	Lecture	Preparing slides presentation		
12	Lecture	Preparing postal presentation		
13	Lecture	Making effective presentations		
14	Lecture	What lies ahead, academic conduct		
15	Lecture	Scientific thinking		
16	Lecture & Practical	Literature search and review		
17	Lecture	Introduction to systematic review		
18	Lecture	Proposal development		
19	Lecture	Introduction to grants writing		
20	Lecture	Preparing scientific manuscripts		
21	Seminar	Manuscript reporting guidelines		
22	Demonstration	Dissertation reporting and formatting		
MODULE ASSESSMENT				
<u>FORMATIVE</u>				
This shall be based on performance of the student in class participation, seminar presentation, discussion, and home assignments. This is essentially for monitoring teaching and learning progress, feedback, and remediation.				
<u>SUMMATIVE</u>				
This shall be constituted by the final written examination which shall include multiple choice questions, essay-style questions and computer-based practical examination. The combination of these would constitute the final examination score. The date for the final examination shall be as scheduled in the session calendar and according to the examination timetable which shall be released as at when due.				
<u>RESIT EXAMINATION</u>				
A student who fails to obtain a mean score of 50% and./or fail to satisfy the requirement for ‘Pass’ in this module will be entitled to re-assessment in a re-sit examination with three months later. However, during the three months of preparation, the student must be given opportunity for fresh continuous assessment scores. The same criteria for the main examination shall apply to the re-sit examination.				

RESOURCES (Materials for further readings in addition to the taught content of a lecture)

BOOKS:

1. Swales JM, Feak CB. Academic writing for graduate students: Essential tasks and skills. Ann Arbor, MI: University of Michigan Press; 2004
2. Systematic reviews: CRD's guidance for undertaking reviews in health care by the Centre for Reviews and Dissemination
3. SPSS Survival Manual by Julie Pallant

JOURNALS:

1. Swales JM, Feak CB. Academic writing for graduate students: Essential tasks and skills. Ann Arbor, MI: University of Michigan Press; 2004.
2. Lea MR, Street BV. Student writing in higher education: An academic literacy approach. Studies in higher education. 1998 Jan 1;23(2):157-72.
3. DeBehnke DJ, Kline JA, Shih RD. Research fundamentals: choosing an appropriate journal, manuscript preparation, and interactions with editors. Academic Emergency Medicine. 2001 Aug;8(8):844-50.

WEB-BASED RESOURCES:

1. <https://www.microsoft.com/en-us/learning/training.aspx>
2. <https://www.apastyle.org/>
3. <https://www.classcentral.com/tag/academic-writing>
4. Africa Centre of Excellence for Public Health and Toxicological Research Guide to Postgraduate Research Thesis/Dissertation Preparation, Submission and Examination - <https://aceputoruniport.edu.ng/uploads/ACE-PUTOR%20Research%20Guideline.pdf>
5. University of Port Harcourt Intellectual Property Policy - [https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fiv%20\(Intellectual%20Property%20Policy\).pdf](https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fiv%20(Intellectual%20Property%20Policy).pdf)
6. University of Port Harcourt Standard Operating Policy for Research Ethics Committee - [https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fv%20\(Standard%20Operating%20Procedures%20Research%20Ethics%20Committee\).pdf](https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fv%20(Standard%20Operating%20Procedures%20Research%20Ethics%20Committee).pdf)
7. University of Port Harcourt Research Management Policy - [https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fii%20\(Research%20Management%20Policy\).pdf](https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fii%20(Research%20Management%20Policy).pdf)
8. University of Port Harcourt Strategic Research Plan - [https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fiii%20\(Strategic%20Research%20Plan\).pdf](https://aceputoruniport.edu.ng/uploads/SP-2012-2013-027Fiii%20(Strategic%20Research%20Plan).pdf)

ENVIRONMENTAL EPIDEMIOLOGY, EXPOSURE SCIENCE & RISK ASSESSMENT



HOST: WORLD BANK AFRICA CENTRE OF EXCELLENCE, CENTRE

DATE

SCIENCE & RISK ASSESSMENT

3

MODULE LOCATION
UNIVERSITY OF PORT
HARCOURT

No. OF WEEKS

4

PRE-REQUISITES:

NONE

☐

IF YES, STATE COURSE CODE(S) OR LINKS:

MODULE DESCRIPTION

The candidate will study the principles and practice of advanced epidemiology and general concepts of assessing environmental exposures to chemicals in human populations. Exposure assessment which is a key component of environmental health and the goal of much of environmental monitoring will be studied. This module will provide an overview of all aspects of environmental exposure assessment. It will also cover all major exposure media (air, water, food, soil, etc.) and all-important pathways (inhalation, ingestion, absorption, etc.). Exposure assessment study design, the strengths and weaknesses of various exposure assessment techniques, and how to link exposure assessment with environmental health will also be covered.

This course will also teach natural and environmental toxicants; Food toxicology and carcinogens; Mutagens, teratogens, allergens; Neurotoxins, endocrine disruptors; Detoxification of toxicants; Microbial and insects' metabolism of xenobiotics; Metabolism as a determinant of toxicity and Assessment of toxicity; Metabolism of hydrocarbons and other toxicants; Human exposure to environmental contaminants.

Course Content

- Introduction to principles and practice of epidemiology
- Confounders, effect modification/interaction, causal inferences, outbreak investigations,
- Geo-mapping/GIS, surveillance, receiver-operating characteristics curve, and surveys
- The design of ecologic and personal monitoring studies
- The techniques and equipment used for sampling and analysis, and interpretation of data.
- The linkages among external concentrations, spatial and temporal parameters,
- Risk assessment: Concept and models
- Recent topics in risk assessments
- Food safety;
- Modern Environmental Health Hazards in Non-Communicable Diseases
- Biomonitoring; Metals in diseases; Metal toxicology: lead, mercury, cadmium, arsenic, chromium, nickel, vanadium, cobalt, manganese, iron, copper, etc;
- Persistent organic pollutants (POPs) and dioxins
- Plastics toxicology

- Soot and aerosol toxicology; Ozone, a criteria air pollutant; Natural antidotes; Unravelling toxic mechanisms
- Biomarkers for toxic effects; Predictive toxicology; Regulatory aspects; Introduction to Systems Biology; Definition of fundamental concepts;

Cognitive effects of early exposure to environmental toxins, such as hydrocarbons, heavy metals, methylmercury, and other environmental toxicants on children and infants including exposure via breast milk

MODULE AIMS

This module is aimed at providing students with basic scientific knowledge of exposure studies applicable to epidemiologic investigations and health risk assessment, sources of exposure, exposure measurement, assessment, and prevention and mitigation of hazardous environmental exposure

INTENDED LEARNING OUTCOMES (according to the three domains of learning [where it applies]):
On successful completion of this module student should be able to:

COGNITIVE:

1. Understand the basic concepts of environmental epidemiology and exposure science assessment
2. Develop effective exposure assessment strategies for human health studies and human health risk assessment
3. Present the history of epidemiology and exposure assessment as well as the current state of the science
4. Detail the most important human exposures by source, media (air, water, etc.) and route of exposure (inhalation, ingestion, etc.) and also review and critique seminal exposure assessment literature

PSYCHOMOTOR:

1. Ability to explain basic principles in environmental epidemiology and exposure science including occupational health sciences toxicology and quantitative risk assessment.
2. Ability to present the various techniques of assessing exposure by route of exposure
3. Ability to design a testable hypothesis and execute research activity to investigate the effects of a toxicant, or toxin, or hazard event in a community
4. Understand principles and methodologies of exposure analysis
5. Understand the importance of accurate exposure assessment in environmental health

AFFECTIVE

1. Determine what risks are present in a particular community and develop a basic risk assessment plan for the identification, characterization, management, and remediation of that risk
2. Diagnose and apply appropriate approaches for assessing, preventing, and controlling environmental hazards that pose risks to health and safety
3. Develop an intervention/prevention plan to ameliorate a particular environmental or occupational risk in a community workplace, respectively
4. Provide an informed expert opinion to government and/or community leaders regarding the extent or level of risk associated with a particular environmental or occupational hazard or condition
5. Develop and/or apply novel and cutting-edge research methods in the laboratory and/or in the field

MODULE EXECUTION PLAN:

This module shall consist of 13 no. of lectures covering 21 no. of topics to be delivered in a classroom setting between a-b hours every (e.g. Monday). Additional learning experiences shall be in form of group-based tutorial, and individual seminar presentation which shall hold on (e.g. alternative week). Each lecturer shall ensure

formative assessment of students learning achievements as well as take feedback on students' experiences with each teaching contact. Assignments (formative and summative) shall comprise individual works and small group activities. Formative assessment shall be conducted to cover the recently completed series. At the end of the module, a final summative assessment shall be undertaken by students which will cover the entire syllabus of the module.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

	Activity type	A (Applicable)/ N/A (Not applicable)	Contact hours
1	Lectures (L)	Applicable	30
2	Tutorials (T)	Applicable	6
3	Seminar presentation (SP)	Applicable	10
4	Course paper/assignment (CP/A)	Applicable	20
5	Practical/demonstrations (PR)	Applicable	5
	Self-directed learning	Applicable	40
6	Others, pls specify	Applicable	10

CONTENT/ACTIVITY SCHEDULE

	ACTIVIT Y TYPE	TOPIC	CONTACT HOURS	INSTRUCTOR
1	Lecture	Principles of exposure science/ exposure assessment	2	
2	Lecture	The context of human exposure	1	
3	Lecture	The origin of human exposure assessment	2	
4	Lecture	Definition and key considerations	2	
5	Lecture	The environment-health chain	1	
6	Lecture	The scope of human exposure	1	
7	Lecture	Overview of exposure assessment	2	
8	Lecture	Elements of exposure assessment	2	
9	Lecture	Risk assessment: Concept and models	1	
10	Lecture	Human exposure information in risk assessment	3	
11	Lecture	Introduction to principles and practice of epidemiology	2	
12	Lecture	Confounders, effect modification/interaction, causal inferences, outbreak investigations	2	
13	Lecture	Geo-mapping/GIS, surveillance	1	
14	Lecture	receiver-operating characteristics curve, and surveys	2	
15	Lecture	The design of ecologic and personal monitoring studies	1	
16	Lecture	The techniques and equipment used for sampling and analysis, and interpretation of data	2	
17	Lecture	The linkages among external concentrations, spatial and temporal parameters	1	
18	Assignme nt	Risk assessment indices	2	
19	Assignme nt	Demonstration and use of equipment, techniques	2	
20	Seminar	Seminars on special topics in risk assessment	2	

21	Seminar	Seminar on special topics in epidemiology	2	N/A
MODULE ASSESSMENT				
<u>FORMATIVE</u>				
This shall be based on the class participation, seminar presentation, course paper/written assignment and classroom written tests. This is essentially for monitoring teaching and learning progress, feedback, and remediation.				
<u>SUMMATIVE</u>				
This shall be constituted by the continuous assessment scores and final examination score. Students shall be notified at least a week before a continuous summative assessment while final examination shall be as scheduled in the session calendar and according to the examination timetable which shall be released as at when due. Continuous summative assessment can also be derived from class participation, seminar presentation, course paper/written assignment and classroom written tests. On the other hand, the summative assessment shall variably consist of MCQs, OSCE, Essays, and Practical.				
<u>RESIT EXAMINATION</u>				
A student who fails to obtain a mean score of 50% and/or fail to satisfy the requirement for 'Pass' in a module will be entitled to re-assessment in a re-sit examination three months later. However, during the three months of preparation, the student must be given opportunity for fresh continuous assessment scores. The same criteria for the main examination shall apply to the re-sit examination.				
RESOURCES (Materials for further readings in addition to the taught content of a lecture)				
<u>BOOKS:</u>				
1. Nieuwenhuijsen, M.J (2015). Exposure assessment in environmental epidemiology. 2ed. Oxford University Press. UK				
2. Baker, D and Nieuwenhuijsen, M.J (2008). Environmental epidemiology: study method and application. Oxford University Press. UK				
3. Liou, P and Weisel, C (2014). Exposure science: basic principles and applications. 1 ed. Academic Press.				
<u>JOURNALS:</u>				
1. Journal of exposure science and environmental epidemiology (Publisher: Springer Nature)				
2. Journal of Toxicology and Risk Assessment (Publisher: Clin Med International Library, USA)				
3. <i>Risk Analysis</i> published on behalf of the Society for Risk Analysis)				
<u>WEB-BASED RESOURCES:</u>				
1. https://ehjournal.biomedcentral.com/articles/sections/environmental-epidemiology				
2. https://eohsi.rutgers.edu/divisions/exposure-science/				
3. https://www.eea.europa.eu/publications/GH-07-97-595-EN-C2/chapter1h.html				

RESEARCH METHODS



HOST: WORLD BANK AFRICACENTRE OF EXCELLENCE IN PUBLIC HEALTH

MODULE TEMPLATE

3

MODULE LOCATION:

UNIVERSITY OF PORT HARCOURT, PORT HARCOURT

No. OF WEEKS: 4

PRE-REQUISITES: NO

IF YES, STATE COURSE CODE(S) OR LINKS:

MODULE DESCRIPTION:

This course acquaints the students with principles and practice of advanced research methods in public health in relation to environmental health, environmental toxicology and nutritional biochemistry. Broad areas include study designs, quantitative and qualitative research methodologies, advanced literature search and data synthesis and ethical issues in research.

MODULE AIMS:

1. Understand qualities and criteria for good research
2. Appreciate the importance and application of critical thinking in research
3. Understand ways of interpreting, reporting and disseminating research findings
4. Learn the various types of research in public health and biomedical research
5. Learn the basics of different research methodologies and conduct of a survey
6. Develop necessary skills in data management and analysis
7. Acquire competence and certification in research ethics application

MODULE EXECUTION PLAN:

This module shall consist of 14 lectures/tutorials/practicums covering 8 broad topics to be delivered in a classroom setting between 9-4 pm Monday to Friday for a week within a block of one month (*now online at 9 am - 12 pm on Mondays, Wednesdays & Fridays during the COVID-19 period*). Additional learning experiences shall be self-directed learnings and online training. Each lecturer shall ensure formative assessment of students learning achievements as well as take feedback on students' experiences with each teaching contact. Assignments (formative and summative) shall comprise individual works and small group activities. Formative assessment shall be conducted to cover the recently completed series. At the end of the module, a final summative assessment shall be undertaken by students which will cover the entire syllabus of the module.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

SN	Activity type	A (Applicable), N/A (Not applicable)	Contact hours
1	Lectures (L)	Applicable	18
2	Tutorials (T)	Applicable	3

3	Seminar presentation (SP)	Not Applicable	0
4	Course paper/assignment (CP/A)	Applicable	18
5	Practical/demonstrations (PR)	Applicable	12
6	Self-directed learning (SDL)	Applicable	24
	TOTAL		75

CONTENT/ACTIVITY SCHEDULE

S N	Day	Date/Time	Activity Type	Thematic Areas	Lecture Topic	Contact Hours	Instructor
1.	1	Mon. Aug 2	SDL	Readings	<ul style="list-style-type: none"> • Brownson et al (2018): Book (for Day 7) • ACE-PUTOR Research Guidelines, 2019 	6	Babatunde
2.	2	Wed. Aug 4 (9:00-10:30)	L	Generating Evidence for Public Health Action	<ul style="list-style-type: none"> • Need for Evidence-Based Public Health • Assessing Scientific Evidence for Public Health Action 	1.5	Babatunde
3.	2	Wed. Aug 4 (10:40-12:10)	L	Methodological Considerations in Health Research	<ul style="list-style-type: none"> • Research Ontology & Epistemology • Epidemiological Designs 	1.5	Babatunde
4.	3	Fri. Aug 6 (9:00-10:30)	L	Methodological Considerations in Health Research	<ul style="list-style-type: none"> • Qualitative Research Methodology • Case Studies: Mixed Methods Reports 	1.5	Babatunde
5.	3	Fri. Aug 6 (10:40-12:10)	L		<ul style="list-style-type: none"> • Sample Size Determination in Surveys 	1.5	Babatunde
6.	X	Aug 7&8	SDL	Readings	<ul style="list-style-type: none"> • Festing& Altman (2002). Journal article • Huston & Rowan (1998). Journal Article • Isreal GD (1992). Journal Article • Hoshaw-Woodard (2001) – Journal 	9	Siminialayi
7.	4	Mon. Aug 9 (9:00-10:30)	L	Survey Methods	<ul style="list-style-type: none"> • Experiments Using Laboratory Animals Overview 	2	Siminialayi

8.	4	Mon. Aug 9 (10:40-12:10)	L		• Case Studies: Sample size for comparison groups & experimental studies	1	Babatunde
9.	X	Tues. Aug 10	CP/A	Formative Assessment	• Course Assignment	6	Babatunde
10.	5	Wed. Aug 11 (9:00-10:30)	L		• Sampling Designs and Techniques	2	Babatunde
11.	5	Wed. Aug 11 (10:40-12:10)	T		• Case Studies: Modified cluster surveys and multi-stage sampling techniques	1	Babatunde
12.	X	Thurs. Aug 12	SDL	Readings	• Hoshaw-Woodard (2001) – Journal	3	Babatunde
13.	6	Fri. Aug 13 (9:00-10:30)	L	Data Analysis	• Data Management and Analysis	2	Babatunde
14.	6	Fri. Aug 13 (10:40-12:10)	T	Reporting & Documentation	• Publishing & Predatory Journals: The Beall's List • ACE-PUTOR Guidelines & Timelines	1	Babatunde
15.	7	Mon. Aug 16 (9:00-10:30)	L	Thinking Skills for Conduct of Research	• What is Critical thinking? • Applying Critical Thinking to Research • Characteristics of Critical Thinkers and Uncritical Thinkers	1.5	Akaranta
16.	7	Mon. Aug 16 (10:40-12:10)	L	Planning and Conducting Research	• Challenges and Issues in Research • Reporting Research Results • Interpreting Research Results	1.5	Akaranta
17.	8	Wed. Aug 18 (9:00-10:30)	L	Meaning of Research	• Types & Significance of Research • Qualities & Criteria for Good Research • Objectives of Research	1.5	Akaranta
18.	8	Wed. Aug 18 (10:40-12:10)	L	Research Design	• Types of Research Design • Scientific Method of Research	1.5	Akaranta
19.	X	Thurs. Aug 19	CP/A	Formative Assessment	• Course Assignment	6	Akaranta
20.	9	Fri. Aug 20 (9:00-12:00)	PR	Systematic Reviews	• Systematic Reviews	3	Akaranta

21.	X	Aug 21&22	SDL	Readings	• Evidence and Gap Maps: Web resource	3	Akarant a
22.	10	Mon. Aug 23 (9:00-12:00)	PR	Research Ethics	TRREE Online Training on Research Ethics: Module 1	9	Siminial ayi
23.	11	Wed. Aug 25	SDL	Readings	REVISION		
24.	12	Fri. Aug 27	Exam	Formative Assessment	Module Examination (MCQs & Essays)		Exams Officer
		Total				75	

MODULE ASSESSMENT

FORMATIVE

This shall be based on performance of the student in class participation, seminar presentation, discussion and home assignments. This is essentially for monitoring teaching and learning progress, feedback, and remediation.

SUMMATIVE

This shall be constituted by the final written examination which shall include multiple choice questions, essay-style questions and computer-based practical examination. The combination of these would constitute the final examination score. The date for the final examination shall be as scheduled in the session calendar and according to the examination timetable which shall be released as at when due.

RESIT EXAMINATION

A student who fails to obtain a mean score of 50% and/or fail to satisfy the requirement for 'Pass' in this module will be entitled to re-assessment in the next examination opportunity (unless otherwise granted by the Academic Board). However, during the period of waiting, the student would be given opportunity for fresh continuous assessment scores (subject to the decision by the Academic Board). The same criteria for the main examination shall apply to the re-sit examination.

RESOURCES (Materials for further readings in addition to the taught content of a lecture)

BOOKS:

1. Evidence-Based Public Health by Brownson, Ross C.; Baker, Elizabeth A.; Deshpande, Anjali D. and Gillespie, Kathleen N. <https://global.oup.com/academic/product/evidence-based-public-health-9780190620936?cc=us&lang=en&>
2. Research Methodology with Statistics for Health and Social Sciences by MO Araoye
3. Research Methods in Health by Ann Bowling
4. Qualitative Methods for Health Research by Judith Green & Nicki Thorogood

JOURNALS:

1. Jacobs JA, Jones E, Gabella BA, Spring B, Brownson RC. Tools for Implementing an Evidence-Based Approach in Public Health Practice. *Prev Chronic Dis* 2012;9:110324. DOI: <http://dx.doi.org/10.5888/pcd9.110324>
2. Festing, MFW & Altman, DG. Guidelines for the Design and Statistical Analysis of Experiments Using Laboratory Animals. *ILAR Journal* 2002;43(4):244-258
3. Huston P, Rowan M. Qualitative studies. Their role in medical research. *Can Fam Physician*. 1998;44:2453-2458. Available online at: <https://pubmed.ncbi.nlm.nih.gov/9839063/>
4. Isreal, GD (1992). Determining Sample Size. Available online at: https://www.gjimt.ac.in/wp-content/uploads/2017/10/2_Glenn-D.-Israel_Determining-Sample-Size.pdf
5. Hoshaw-Woodard, Stacy & World Health Organization. (2001). Description and comparison of the methods of cluster sampling and lot quality assurance sampling to assess immunization. Available online at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.205.8233&rep=rep1&type=pdf>
6. David A Grimes, Kenneth F Schulz. An overview of clinical research: the lay of the land. *Lancet* 2002; 359: 57–61

WEB-BASED RESOURCES:

9. Campbell Collaboration. Evidence and gap maps (EGMs). Available online: <https://campbellcollaboration.org/evidence-gap-maps.html>
10. TRREE Online Training on Research Ethics. Available at: <http://nhrec.net/trree-training/>
11. <https://research.library.gsu.edu/c.php?g=115595&p=755213>
12. https://www.who.int/ipcs/publications/training_poisons/analytical_toxicology.pdf?ua=1

ENVIRONMENTAL TOXICOLOGY



HOST: WORLD BANK AFRICA CENTRE OF EXCELLENCE, CENTRE

DATE

3

MODULE LOCATION

UNIVERSITY OF PORT HARCOURT

No. OF WEEKS

4

PRE-REQUISITES:

NONE

☐

;

IF YES, STATE COURSE CODE(S) OR

LINKS:

MODULE DESCRIPTION

The candidate will study the basic principles: factors that affect toxicity.

Course Content

- Introduction to toxicology
- History/Origins of toxicology
- Basic concepts and dose response
- Major areas of specialization in toxicology
- Toxicokinetics: absorption, distribution, excretion, and biotransformation
- Toxicity testing; Biomarkers of exposure and susceptibility factors
- Approaches to primary and secondary prevention
- Hepato and renal toxicology; basic principles and specific examples
- Reproductive and developmental toxicology: basic principles and specific examples (e.g., endocrine disruptors)
- Immunotoxicology: basic principles
- cutaneous and pulmonary hypersensitivity
- Neurotoxicology
- Nanoparticle toxicology
- Epigenetics

MODULE AIMS:

The aim of this module is for the student to understand the basic principles of toxicology and factors that affect toxicity.

INTENDED LEARNING OUTCOMES (according to the three domains of learning [where it applies]):

On successful completion of this module student should be able to:

COGNITIVE:

1. Understand the basic principles of toxicology
2. Learn on how human body naturally handles some of the environmental toxicants exposed to.
3. Learn how the immune system is affected by toxins (environmental)

MODULE EXECUTION PLAN:

This module shall consist of 5 lectures covering 10 different topics to be delivered in a classroom setting between 6-8 hours every Monday-Friday for one week. Additional learning experiences shall be in form of group-based

tutorial, and individual seminar presentation which shall hold on alternative week. Each lecturer shall ensure formative assessment of students learning achievements as well as take feedback on students' experiences with each teaching contact. Assignments (formative and summative) shall comprise individual works and small group activities. Formative assessment shall be conducted to cover the recently completed series. At the end of the module, a final summative assessment shall be undertaken by students which will cover the entire syllabus of the module.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

	Activity type	A (Applicable)/ N/A (Not applicable)	Contact hours
1	Lectures (L)	A	30 HOURS
2	Tutorials (T)	A	5 HOURS
3	Seminar presentation (SP)	A	6hours
4	Course paper/assignment (CP/A)	A	-
5	Self-directed learning	A	As the student desires

CONTENT/ACTIVITY SCHEDULE

	ACTIVITY TYPE	TOPIC	CONTACT HOURS	
1	lectures	Involving the whole course content	30 hours	
2	tutorials	Summary of the course contents	10 hours	
3	seminars	Based on some selected topics	6 hours	
4	assignments	Covering all taught topics	-	
5	Written tests	Covering all taught topics	2 hours	

MODULE ASSESSMENT

FORMATIVE

This shall be based on the discretion of course instructor and may include but not limited to activities such as class participation, seminar presentation, course paper/written assignment and classroom written tests. This is essentially for monitoring teaching and learning progress, feedback, and remediation.

SUMMATIVE

This shall be constituted by the continuous assessment scores and final examination score. Students shall be notified at least a week before a continuous summative assessment while final examination shall be as scheduled in the session calendar and according to the examination timetable which shall be released as at when due. Continuous summative assessment can also be derived from class participation, seminar presentation, course paper/written assignment and classroom written tests. On the other hand, the summative assessment shall variably consist of MCQs, OSCE, Essays, and Practical.

RESIT EXAMINATION

A student who fails to obtain a mean score of 50% and/or fail to satisfy the requirement for 'Pass' in a module will be entitled to re-assessment in a re-sit examination three months later. However, during the three months of preparation, the student must be given opportunity for fresh continuous assessment scores. The same criteria for the main examination shall apply to the re-sit examination.

RESOURCES (Materials for further readings in addition to the taught content of a lecture)

BOOKS: internet sources

1. Burcham P.C. (2014) Core Concepts in Toxicology. In: An Introduction to Toxicology. Springer, London
2.Hayes, A., Wang, T., Dixon, D (2019). Loomis's Essentials of Toxicology (5th Edition), Academic Press, Elsevier

ADVANCED NUTRITIONAL BIOCHEMISTRY



DOCTORAL PROGRAMME

HOST: WORLD BANK AFRICA CENTRE OF EXCELLENCE, CENTRE FOR

EMPLATE

PUT 909		3
MODULE LOCATION UNIVERSITY OF PORT HARCOURT	No. OF WEEKS	4
PRE-REQUISITES:	NONE	
MODULE DESCRIPTION MODULE DESCRIPTION Advanced Nutritional Biochemistry <p>This course is aimed at providing candidates with the principles of human nutrition. It is also aimed at providing an integrated overview of the physiological requirements and functions of protein, energy, and the major vitamins and minerals that are determinants of health and diseases in human populations. This course will also highlight principles of food and nutrition science relative to the health and well-being of the individual and the community. The chemical composition and functions of the essential nutrients, and how they are processed and utilized in the body. Dietary habits, nutrient requirements, food choices, healthy eating practices will also be highlighted. This course will also cover all theoretical/practical aspects of nutritional status assessments such as anthropometric measurement, dietary assessment etc. Screening topics will include the following:</p> <p>Introduction to Nutrition: The need for food, dietary sources, intake levels, physiological role, and requirement of major nutrients.</p> <p>The biological determinants of nutrient requirements and the assessment of nutritional status in individuals and the populations. The role of nutrition in growth and health through the life cycle. The rationale for the development of dietary guidelines and nutrition policies.</p> <p>Community nutrition</p> <p>The role of diet in the development of chronic diseases, such as cardiovascular diseases, cancer, diabetes, etc.</p> <p>Variations in individuals' nutritional status and how they affect health and functioning. The course will focus primarily on developing safe and effective methods for improving the human condition. The program typically includes the following components: formal coursework; laboratory work; seminars; and a dissertation.</p> <p><i>As a doctoral program, it is expected that the students may have:</i></p> <ul style="list-style-type: none"> • <i>Understanding of the biological basis of nutrition and the mechanisms by which diet can influence health.</i> 		

- *Developed laboratory skills required for modern biochemical and molecular studies of nutrition and its role in health and disease. This includes the quantitative analysis and interpretation of results.*
- Acquired some skills in developing research proposals for the study of human nutrition. This requires the integration of knowledge about cellular and molecular biology, modern molecular genetics, and human physiology with concepts in nutritional sciences related to diet and disease.
- Developed skills in the oral and written communication of scientific information.

Course content:

Introduction to Nutrition : The need for food; Dietary sources, intake levels, physiological role, and requirement of major nutrients; The biological determinants of nutrient requirements and the assessment of nutritional status in individuals and the populations; The role of nutrition in growth and health through the life cycle; The rationale for the development of dietary guidelines and nutrition policies in different countries; Nutrition and physiological state (growth, reproduction, pregnancy, lactation etc.); Nutritional disorders of metabolic origin.

Nutrition and Biotechnology; Community nutrition; Maternal, infant and child nutrition; Nutrition in Health and Disease; Nutritional Epidemiology; Nutritional Assessment; DNA methylation; Histone modification and ubiquitination in nutrition and diseases; Advanced glycation end products (AGEs) in foods; Iron toxicity; Dietary iron restriction or iron chelation in metabolic syndrome; Non-alcoholic fatty liver Disease; Reactive oxygen species and Signaling pathways and cancer.

Molecular Nutrition; control of food intake and regulation of body weight, as well as animal models of obesity; factors that affect the absorption, metabolism and storage of Vitamin A, as well as the association between Vitamin A deficiency and disease; effects of nutritional alterations for example, iron deficiency, folate alterations and poly unsaturated fatty acids (PUFAs) on mortality, work capacity, and behaviour and cognitive functioning;

MODULE AIMS

Upon completion of this course, you will be able to do the following:

- Provide an overview of the major macro and micronutrients relevant to human health.
- Discuss the scientific rationale for defining nutritional requirements in healthy individuals and populations, with reference to specific conditions such as pregnancy, lactation, and older age.
- Present current evidence for the role of key nutrients in the prevention of chronic diseases.
- Discuss major nutrition-related diseases in a global context

INTENDED LEARNING OUTCOMES (according to the three domains of learning [where it applies]):
On successful completion of this module student should be able to:

COGNITIVE:

1. Have an overview of the major macro and micronutrients relevant to human health.
2. Understand the scientific rationale for defining nutritional requirements in healthy individuals and populations
3. Understand the role of key nutrients in the prevention of chronic diseases.
4. Understand nutrition-related diseases in a global context.

PSYCHOMOTOR:

1. Ability to carry out assessment of nutritional status of individuals and the population
2. Ability to collect sample from the field for analysis

3. Ability to analyse for nutrient composition of food samples
4. Ability to interpret analytical result and relate it to prevalence of a particular disease in a community
5. Ability to give evidence-based advice on nutrition related issues.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

	Activity type	A (Applicable)/ N/A (Not applicable)	Contact hours
1	Lectures (L)	A	
2	Tutorials (T)	A	
3	Seminar presentation (SP)	A	
4	Course paper/assignment (CP/A)	A	
5	Practical/demonstrations (PR)		
	Self-directed learning	N/A	
6	Others, please specify	Field Trips	

MODULE ASSESSMENT

FORMATIVE

This shall be based on compulsory attendance to class, seminar presentation, written assignment, and classroom tests. Individual lecturers may use any other means of assessment, if need be, but which must be essentially for monitoring teaching and learning progress.

SUMMATIVE

This shall be made up of continuous assessment scores and final examination score.

➤ **Continuous assessment**

At least a one-week notice is given to the students before a continuous assessment test is given and this tentatively must be at the end of each module. The type and mode of administration of the continuous assessment will be the prerogative of the teaching team.

Examination. This shall be conducted according to the examination guidelines as stated in the student's handbook

RESIT EXAMINATION

A student who fails to obtain a mean score of 50% and/or fail to satisfy the requirement for 'Pass' in a module will be entitled to re-assessment in a re-sit examination three months later. However, during the three months of preparation, the student must be given opportunity for fresh continuous assessment scores. The same criteria for the main examination shall apply to the re-sit examination.

RESOURCES (Materials for further readings in addition to the taught content of a lecture)

BOOKS:

1. Biochemistry-of-Human-Nutrition by George-Gropper 2nd-Edition.
2. Nutrition, Chemistry, and Biology by Julian F. Spallholz and Mallory Boylan, 2nd Edition.
3. <https://www.textbooks.com/Biochemical-Physiological-and-Molecular-Aspects-of-Human-Nutrition> by Martha H. Stipanuk 4th Edition.

JOURNALS:


1. Elsevier Journal of Nutritional Biochemistry
2. American Journal of Biochemistry and Molecular Biology
3. Biomedicine and Preventive Nutrition

WEB-BASED RESOURCES:

1. <https://www.crcpress.com%2FNutritional-Biochemistry-Current-Topics-in-Nutrition-Research>
2. <https://www.textbooks.com/Biochemistry-of-Human-Nutrition-2nd-Edition>

3. <https://www.textbooks.com/Nutrition-Chemistry-and-Biology-2nd-Edition/9780849385049/Julian-F-Spallholz-and-Mallory-Boylan.php?CSID=AWB3CJS3UUSMZ2TTODUM2MSCB>

ANALYTICAL METHODS IN ENVIRONMENTAL HEALTH

 University of Port-Harcourt <small>...Truly Unique in Learning and Research</small>		
HOST: WORLD BANK AFRICA CENTRE OF EXCELLENCE, CENTRE FOR PUBLIC HEALTH AND TOXICOLOGICAL		
IMPLATE		
PUT 910	HEALTH	UNITS: 3
MODULE LOCATION: UNIVERSITY OF PORT HARCOURT		No. OF WEEKS 4
PRE-REQUISITES: Prior knowledge of epidemiology and statistical analysis		
MODULE DESCRIPTION (Below is a proposed / tentative module description. Kindly review into a more detailed module suitable for the programme) In this course, students will come to understand the rationale behind the standard approaches to data collection and analysis in environmental health. Students will develop acumen for designing different types of studies and will become familiar with appropriate instruments for data collection and sample analysis, and relevant statistical methods to explore relationships between environmental exposures and health. The core focus of the course would be on: <ol style="list-style-type: none"> 1. Exposure assessment 2. Exposure modeling 3. Risk assessment 4. Epidemiologic methods in environmental health 5. Analysis of environmental data 		
MODULE AIMS This module has the following aims: <ol style="list-style-type: none"> 1. To introduce students to research methods in exposure assessment, risk assessment and risk characterization 2. To provide hands-on tutelage on environmental health data collection 3. To familiarise students with approaches to environmental data processing and analysis 4. To highlight quality considerations in environmental health research 		
INTENDED LEARNING OUTCOMES On successful completion of this module student should be able to: <ol style="list-style-type: none"> 1) critically consider and select methods best suited for the objectives of proposed environmental health studies 2) design studies which answer to questions of exposure ascertainment and estimations of exposure-specific health effects 3) effectively and coherently implement study protocols taking cognizance of peculiar emphasis at each stage of the protocol 4) analyse factors which can affect weaken the validity of conclusions from studies 5) analyse sources of error in data collection and processing 6) critically appraise published environmental health studies and reports 		
MODULE EXECUTION PLAN		

This module shall consist of 13 of lectures covering 24 topics to be delivered both online and, in a classroom, setting. Additional learning experiences shall be in form of group-based tutorial, and individual seminar presentation which shall hold weekly for the duration of the course. Each lecturer shall ensure formative assessment of students learning achievements as well as take feedback on students' experiences with each teaching contact. Assignments (formative and summative) shall comprise individual works and small group activities. Formative assessment shall be conducted to cover the recently completed series. At the end of the module, a final summative assessment shall be undertaken by students which will cover the entire syllabus of the module. Students will be required to fill an end-of-course evaluation form on completion.

TEACHING AND LEARNING EXPERIENCES WITH CONTACT HOURS

	Activity type	A (Applicable)/ N/A (Not applicable)	Contact hours
1	Lectures (L)	A	25
2	Tutorials (T)	A	6
3	Seminar presentation (SP)	A	12
4	Assignment (CP/A)	A	6
5	Practical/demonstrations (PR)	A	5
	Self-directed learning	A	80
6	Others, pls specify		

CONTENT/ACTIVITY SCHEDULE

	ACTIVITY TYPE	TOPIC	CONTACT HOURS	INSTRUCTOR
1	Lecture	Methods in environmental health	1	
2	Lecture	Introduction to exposure assessment	2	
3	Lecture	Biological pathways of exposure	2	
4	Lecture	Exposure and dose	1	
5	Lecture	Exposure monitoring	2	
6	Lecture	Biomonitoring and biomarkers in exposure assessment	3	
7	Lecture	Mathematical modeling of exposure	3	
8	Lecture	Quality assurance and uncertainties	1	
9	Lecture	Environmental risk assessment	1	
10	Lecture	Epidemiology in risk assessment	1	
11	Lecture	Designs in environmental epidemiology	2	
12	Lecture	Data analysis in Environmental Studies – 1	3	
13	Lecture	Data analysis in Environmental Studies – 2	3	
14	Seminar	Critical reading of scientific articles in environmental health	3	
15	Practical class	Exercise in exposure measurement	3	
17	Practical class	Exercise on exposure misclassification	2	
18	Tutorial	Calculation of dose-response	2	
20	Assignment	Calculation of exposure misclassification	2	
21	Assignment	Calculation of dose-response	NA	

22	Assignment	Design a study to determine environmental risk	NA	
23	Seminar	Presentation of study designs and mutual critique	3	
23	Assignment	Environmental exposure monitoring and processing	NA	
24	Tutorial	Case study	2	

MODULE ASSESSMENT

FORMATIVE

Assessment of this module shall be based on class participation, seminar presentation, submission of reports based on assignments.

SUMMATIVE

This shall be constituted by the continuous assessment scores and final examination score. Students shall be notified at least a week before a continuous summative assessment while final examination shall be as scheduled in the session calendar and according to the examination timetable which shall be released as at when due. Continuous summative assessment can also be derived from class participation, seminar presentation, course paper/written assignment and classroom written tests.

RESIT EXAMINATION

Students whose assignments and reports are considered unsatisfactory shall undertake compensatory tasks (e.g. write an essay or do a synopsis) to make up for the defect in performance. The same criteria for the main examination shall apply to the re-sit examination. A student who fails to obtain a mean score of 50% and/or fail to satisfy the requirement for 'Pass' in a module will be entitled to re-assessment in a re-sit examination three months later. Failure of resit exams would translate to repeating the course with the next class.

RESOURCES (Materials for further readings in addition to the taught content of a lecture)

BOOKS:

1. Ott WR, Steinmann AC, Wallace LA. 2007. Exposure Analysis. Taylor and Francis group, New York, USA.
2. Nieuwenhuijsen MJ. 2004. Exposure Assessment in Occupational and Environmental Epidemiology. Oxford University Press, Oxford, UK
3. Wilkinson P (ed). 2006. Environmental Epidemiology. McGraw-Hill International Ltd, Berkshire, UK.
3. Kirkwood BR, Sterne JAC. 2003. Essential Medical Statistics, 2nd ed. Blackwell Publishing Company, Massachusetts, USA.

JOURNALS:

1. Environmental Health Perspectives (Publisher: US National Institute of Environmental Health Sciences)
2. Environment International (Publisher: Elsevier)
3. Environmental Research (Publisher: Elsevier)
4. Journal of Environmental Research and Public Health (Publisher: MDPI)
5. Environmental Health (Publisher: Biomed Central)

WEB-BASED RESOURCES:

1. <https://www.who.int/heli/publications/helirevbrochure.pdf>
2. <http://www.oecd.org/health/health-systems/32006565.pdf>

Overstay

Candidates who have stayed more than one year beyond the assigned number of years are deemed to have overstayed. For a full-time PhD programme, this is equivalent to staying more than 4 years. According to the university's Senate, those deemed to have overstayed are meant to re-apply and start afresh if the candidate is still interested in obtaining a certificate at completion of the programme. This process would involve their getting a new form and new registration number as done by new students.

Completion of programme

A student is said to have completed his/her programme when s/he had successfully completed all the prescribed courses in the programme, undertaken an internship period and defended his/her thesis, carried out minor or major corrections as directed, have the work certified by the appropriate officers and submitted to the Centre for subsequent submission to the School of Graduate Studies.

Master's Degree students are expected to have at least one (1) article from their work in publishable format before their oral examination and attend a minimum of one (1) scientific conference. All PhD students are expected to have at least two (2) articles from their work in publishable format before their oral examination and attend a minimum of one (1) local and one (1) international scientific conference where s/he would present findings from their research

Temporal withdrawal from study

Any student who has a genuine reason(s) to apply for temporary withdrawal from study should apply to the university in writing through the Centre Leader stating the reason(s) for his/her application and needs to obtain approval from Senate.

The application should specify the period (session) to be away and the session for the resumption of study. The Centre Leader shall furnish the School of Graduate Studies with the CGPA of the student at the time of the request, and this must be presented to the Senate of the University. Temporary withdrawal from studies is only permitted for a period of not more than one academic session. This is however, after thorough investigations by an appropriately constituted committee by the University Senate.

Regulations, Procedures and other elements of the Programme

Submission of course work/assignment and presentations of seminars

The ability to present material lucidly is an increasingly important skill which must be acquired by professionals including our trainees. Consequently, course members are given opportunities to improve their communication skills during the course by being involved individually or in groups in presentations.

Where seminars on various topics or presentation of surveys and visits are done, written reports of such seminars shall be submitted in bound form to the department. The APA style of referencing (<http://www.apastyle.org/>) shall be used for all academic submission including the FINAL THESIS. All

submissions for assessment shall be done online and shall pass through the anti-plagiarism test of the Centre.

A penalty is applicable for late handing in of assignments which is equivalent to a 5% reduction per working day of delay. The penalty is subtracted from the final total mark of that assignment. Course paper/assignment can be submitted individually or collected by the course representative before the deadline and submitted to the course instructor. Where it becomes difficult to get the course instructor, they can be dropped with the secretary in the departmental office. Please note that the date of submission in this case is taken as when it is dropped with any responsible officer of the programme.

Assessment planning procedures

All concluded modules are examined in accordance with the university's practice. The date, venue and structure of the final examination for each module shall be included in the course schedule sent to students at least two weeks before the commencement of the module. The examination questions are prepared by the responsible instructors at the end of the various courses. Invigilation of final examination shall be arranged by the programme coordinating unit. It is pertinent to note that the date and venue for examination can be adjusted with the consent of both the instructors and students.

Results of examination

Results of every examination are approved by the Centre's Academic Board. Although students' scores are expected to be turned in within one month of conclusion of the various examinations, these results shall only be made official after being

endorsed by the Centre Academic Board. The dates for the meeting of the Centre Academic Board each session shall be communicated to all stakeholders. Approved results by the Centre shall be handed over to the Centre's head of administration who

FEATURED NEWS

Misconduct Senate Expels Seven Students, As NOTAP Registers Five New UniPort Patents ...Approves Results, New Programmes



By Otikor Samuel

In response to established cases of gross misconduct against them in separate investigations, the Senate has summarily expelled seven students to serve as a deterrent to others. Of the seven, four were expelled for attempted tampering with the anti-plagiarism scan aimed at ascertaining the originality of students' research. Two of the expelled students were involved in examination malpractices, one of them was caught while extorting money from his fellow students.

learning and participation in this class and integrity in your behavior in and out of the classroom. Plagiarism, cheating, and other misconduct are serious violations of your contract as a student. Plagiarism is to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source.

shall send the required copies of these results to the school of graduate studies, other relevant units of the university and place these results on the notice board. The Centre's academic coordinator shall also ensure that all results are archived in the Centre and on students' portals.

Plagiarism and academic misconduct

As a student in this course you are expected to maintain high degrees of professionalism, commitment to active

According to *Merriam-Webster Encyclopaedia*, it is to commit literary theft: present as new and original an idea or product derived from an existing source

The Centre and the University accepts plagiarism as:-

“The use, without acknowledgement, of the intellectual work of other people, and the act of representing the ideas or discoveries of others as one's own in any work submitted for assessment or presented for publication. To copy sentences, phrases or even striking expressions without acknowledgement of source (either by inadequate citation or failure to indicate verbatim quotations) is Plagiarism; to paraphrase without acknowledgement is also plagiarism”.

The Centre and indeed the university take a profoundly serious view of plagiarism and regards it in the same way as it regards cheating in written examinations. While it is perfectly correct to reference others work in theses and assessments, it is unacceptable to "lift" or copy tracts of other work from literature on (or) the internet.

Furthermore, while it is acceptable to seek the advice of university staff and other course members on assignment work, it is generally unacceptable (unless otherwise advised by university staff) to submit identical work for assessment. If you are found to have collaborated in circumstances where it is not permitted or to have plagiarized someone else's work, the likely outcome is that you will get zero marked for that subject (seminar or project) or in more serious cases, you could be referred for further disciplinary actions by the university. In any case, the process is very unpleasant and could have severe implications for your future career prospects. If you are in any doubt about either plagiarism or collaboration, you must seek the advice of your

supervisor or the academic member of the programme who is responsible for teaching research methods.

Examination Malpractices

According to the university's regulation, any graduate student found cheating in any examination shall be expelled from the university.

Abuse and sexual harassment

The Centre and indeed the University view abuse and sexual harassment as profoundly serious offences. The details of what constitute these offences and how cases are handled by the Centre are available in the [Gender violence and related offense policy](#) document of the Centre.

Research governance

Research forms part of the training of all postgraduate students in the University of Port Harcourt. As such, all master's and PhD students are expected to undertake an independent, original research in various areas of study. They are also expected to publish, present aspects of the findings of their research in local and international conferences and before graduation, defend the report before a Board of Examiners.

Students' engagements during training

Students belong to different training groups and are involved in several activities during their study in the Centre. It is recommended that each student keeps a detailed inventory of their

activities alongside their reports on their progress. The typical spectrum of these involvements is shown in the figure below:

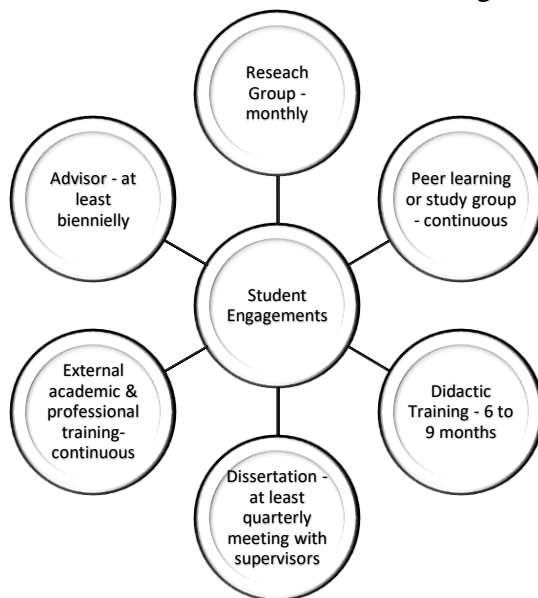


Figure 1. Students' involvements during training

Research Groups

The research groups occasionally undertake specialized methodological training, collaborative research, evidence synthesis. Despite the expediency for individualized research, the complementary skills that come to bear in group research offers promise of tremendous benefits in tackling complex and important problems, producing high quality work with group members learning from each other. Additionally, the research group is a perfect forum for discussing individual research. The current research groups in the Centre include – Environmental health, toxicology, nutrition and nursing. Others available in the University of Port Harcourt School of Public Health include health services/systems, population/reproductive health and

epidemiology research groups. There is a broad range of cross-cutting activities between these centres and with the departments of Preventive and Social Medicine, Biochemistry, Experimental Pharmacology, Nursing, Centre for Health and Development and Centre for Marine Pollution and Seafood Safety. Students in this Centre are permitted to attend academic and professional trainings/seminars holding in any of these collaborating units. Details of this can be found in the Research Guidelines available at

https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/ACE%20PUTOR/ACE-PUTOR%20Research%20Guideline.pdf

Research ethics

All postgraduate students must request for and receive approval for the research proposal before proceeding on field work. The research protocol is submitted to the University's research ethics committee in the required format (see ACE-PUTOR Research Guidelines) after the oral presentation and defense of the proposal before the Centre's Academic Board. Three hard copies and a CD copy of the research proposal is submitted to the secretary of the research ethics committee and decisions on ethics applications are normally made within two months.

Scholarships

Scholarships are provided each year to deserving students who apply for full time study and have no means of meeting up with the cost of their education. This decided through a merit-based screening procedure. These are of two categories – regional and local.

The benefits and package from each of these scholarships are different and may also vary from session to session. It shall commonly include payment of tuition and students' accommodation. The number of national scholarship slots shall be divided equally between males and females and shall only be available for full-time students with excellent academic track records including performance in the entry screening exercise. As this is reserved for indigent students, every student who requires a scholarship applies to the Centre Leader stating their economic status and how the scholarship would assist their academic pursuit. All applications shall be screened by 'Scholarship Screening Committee' whose membership include Deputy Centre Leader, The Academic Coordinator, Student Support Officer and the representative from the School of Graduate Studies.

Without prejudice to the existing policy, the Centre Management and based on the availability of funding, some/all full-time national and regional PhD students can receive automatic scholarships from the Centre. Additionally, fulltime regional master's students will also automatically receive scholarship from the Centre. Finally, all regional students are entitled to free hostel accommodation within the University and would have their residency permit done by the Centre.

Financial Support

Besides scholarships, students are also entitled to other financial support for internship, research and conference attendance. Internship placements are often secured by the Centre in industries, sectors and government agencies relevant to the research work of the students. The Centre's merit-based system accommodates sponsorship for 1-month internship for the best student (by CGPA) in the early training anywhere in the world

including Europe and America. The price tag is currently fixed at \$4,000 (four thousand dollars). The second and third best students are permitted to do same within the African region with a support of \$2,000 (two thousand dollars). The rest can either do so in Rivers State with a support of N50,000 (fifty thousand naira only) or outside Rivers but within the country with a sponsorship support of N100,000 (one hundred thousand naira only). These provisions are however subject to the availability of funds and the financial regulations in the University.

Research support is provided for eligible masters and PhD students whose research topics are deemed to be relevant to the public health effects of environmental pollution especially from oil and gas activities. Students who are interested in this support are required to apply with details of their research proposal including the cost of the elements of their work the funding will cover. The cost element can also include cost of attendance of conference, publication of their research or other forms of dissemination of their research finding. The decisions on who qualifies for this support are made annually by a team headed by the Centre's applied research coordinator. Other members of this assessment team include the research team leaders from the various collaborating departments. Where applicable, the current ceiling for such support is N100,000 (One hundred thousand naira only) for master-level students and N300,000 (three hundred thousand naira only) for PhD students. These provisions are however subject to the availability of funds and approval by the University.

In exceptional cases, additional funding can be made available to deserving students who:

- a) Wish to present their research findings in international conference.

- b) Have developed or are in the process of developing a patent or commercializing their research.

Request of such nature shall be directed to the Centre Leader and decisions are made on a case to case basis by the Centre Steering Committee

The ceiling for all routine supports given by the Centre Management shall be decided annually by the Centre's steering committee and communicated to prospective students during the application process. The request, disbursement and retirements of all expenses from these supports shall be in accordance to the Centre's financial management regulations.

Disability support

Nigeria ratified the United Nations Convention on the Rights of People with Disabilities (CRPD) in 2007 and subsequently signed into law the Discrimination against Persons with Disability (Prohibition) Act in 2019. The law prohibits discrimination against persons with disability by service providers and imposes sanctions including fines and prison sentences on those who contravene it. The Centre has responsibility under the act to make reasonable adjustments in all its activities to ensure that candidates with additional support needs are not disadvantaged for reasons related to their long-term medical condition, physical, visual and hearing impairments, specific learning difficulties and/or disability. The Centre management shall ensure that students with disabilities are given special attention during enrolment, allocation of accommodation spaces, design and construction of lecture halls and provision of essential health services. Candidates with such needs are however expected to inform the Centre's management of arrangements and

adjustments that need to be made to enable their full participation in lectures and examination. Further advice and support are available from supportaceptor@uniport.edu.ng

Some of the important help and support contacts for the students are presented below:

Contacts	Need	Response time
infoaceputor@uniport.edu.ng	For general information about the centre, programmes and events, linkages	24 hours
admissionaceputor@uniport.edu.ng	Inquiries on admission into degree programmes and short courses	48 hours
academicsaceputor@uniport.edu.ng	Information on academic issues, lecture schedules, modules and programmes feedback	72 hours
researchaceputor@uniport.edu.ng	For support on research and submission of research presentation (research proposal, draft thesis etc) or research outputs such as conference abstract, proceedings, journal articles.	48 hours
supportaceputor@uniport.edu.ng adminaceputor@uniport.edu.ng	Students' support, complaints, scholarships, accommodation, harassment, theft	24 hours
financeaceputor@uniport.edu.ng	Making payments, checking balance due	48 hours
technicalaceputor@uniport.edu.ng	Use of ICT during modules and other activities, special technical assistance	24 hours

Student retention and progress monitoring

Our students are our greatest ambassadors and so we welcome every opportunity to share knowledge and impact them positively. Plans for retention and support of the students commence even before enrolment and cut across the traditional three main categories – social integration, academic integration and monitoring progress of the students' pathway.

Our academic advisory committee provide on-going service to intending students on the challenges of university life and provide online and onsite educational material bordering on questions and answer that may pose a challenge to the intending students.

A general orientation is conducted annually for all fresh students of the Centre in addition to the non-credit module on *introduction to graduate studies*. This is to ensure that all fresh students quickly get adapted to their new learning environment, meet with the faculties and promote organisational integration.

The orientation also provides an opportunity for the management of the Centre to collate the expectations of the new students and understand how to adapt the programme as much as possible to the need of individual student. It has been stated earlier that the Centre plans to provide enhanced scholarships and assistance to disadvantaged students especially foreign and female students through its welfare committee.

Each admitted student is provided a pathway which shows an interactive timeline of his or her key progression milestone specific to the research programme. Candidates who have an interruption, extension or changed their milestones would need to update their new progression milestone deadlines with the Postgraduate committee in the department.

In addition, current students are encouraged to form associations that would serve as a medium to share experiences and support themselves. Regular interactions between alumni and current students are arranged to provide additional support and social integration for the students especially the foreign students.

Accommodation

Accommodation within the campus is often very competitive to get. Foreign students are provided shared spaces at available international Students hostels located along the East-West Road. Nigerian students are accommodated in the various postgraduate hostels in the University. The Centre's students support officer would be of help to students who desire to be accommodated on campus.

Fee payment

Students are classified as private or sponsored based on fee payment. The fees payable by these categories are published before the start of the new session and are not subject to changes for that session. Students are expected to pay school fees annually and for the duration of their programmes. For programmes lasting more than a session, the school fee schedule at commencement shall remain unchanged through the stay of the student.

Payment of school fees is flexible, can be done in installments but should be completed before the end of third quarter of the session. Students can make arrangements for a personalized payment plan by communicating with the finance officers at finance@aceputoruniport.edu.ng

Students who fail to complete their annual payments at the end of the 3rd quarter of each session shall be asked to withdraw from their academic programme. The deadlines for such payments shall be sent to all students at the commencement of the session. Sponsored candidates would have to present their letter of sponsorship from the sponsoring institution, but they are still required to liaise with their sponsors for the payment of required fees. Stated fees are only for all activities done within the Centre, there may be other fees applicable, and students are advised to seek clarifications from the office of the Dean of Students' Affairs before making additional payments.

Deferment of Admission

In line with the general regulation and statement of academic policies of the university, a candidate who has been admitted and is found qualified to be registered can defer the admission to the next academic year (for only one year) after payment of acceptance fee. The candidate must however, go through the clearance and deferment procedures at the Centre and the School of Graduate Studies.

Community service

This is a field project directed towards service to the community or the university and is an integral part of all degree programmes. The objective of the project is to involve both staff and students in a practical with some of the problems of society as well as with efforts to provide solutions to them and inculcate and develop in both staff and students a consciousness of their responsibilities to society and the satisfaction of rendering services to others. Students' projects shall be of practical nature, require the application of some of the skills acquired during training and

involve manual work. Although no credit unit is attached to this, all students are expected to undertake it individually or in groups. The community service unit of the university may be involved and can even coordinate the students' community service.

University Resource Centres

Library

The University of Port Harcourt boost of one of the biggest and most equipped libraries in Nigeria. This is called the Donald Ekong Library in the University Park opposite the Senate Building. The library provides books, non-book/electronic resources and ancillary services which are invaluable in extending and supporting the university's programmes of teaching, learning and Research.

The Donald E.U. Ekong Library complex is made up of two wings A with three floors and B with two floors. Wing A has the Documents unit and the Knowledge Commons on the first floor.



The second floor of wing A house the University Librarian's office, Technical Services Department, Finance Office and the Archives. The third floor houses the Thesis/Dissertation unit and the Research Commons

The main entrance and exit points to the library are on the ground floor of wing B. The Reference unit, offices and some book stack rooms are on the first floor of wing B. The other book stack rooms including offices, Elsevier E-Training Room, VTLS Cataloguing

Room and the Server Room are located on the second floor of wing B.

Library Resources

Reference Books- Including dictionaries and encyclopedias, handbooks, Annuals, gazettes, biographies- essential for basic background information to all subjects Available in the REFERENCE section

Books on the open shelves- Includes a vast array of materials waiting on the open shelves. Use these materials to supplement your required reading and to write papers and assignments

Journals- Magazines and periodicals on the shelves to complement the electronic resources available. Journals are in the research section.

Electronic resources- Thousands of electronic journals can be accessed through our various database. The list of titles to which the library provides access can be found via the library's homepage. These databases provide access to full text journals on your PC.

Documents - Where you can find classified information concerning government agencies, International organisations e.g. WHO, UNITED NATIONS They also include statistical documents, material published by NGO'S, Census, Legislation etc.

Archives – Provides documents and materials in retrospect concerning the University. It also contains back sets of journals and other materials.

Day Care Centre



The University of Port Harcourt Day Care Centre is situated at University Park of the University. The Day Care Centre is a school that houses crèche, nursery and primary.

This Centre was built, owned, and being managed by the University of Port Harcourt Women Association (UPWA) which is often headed by the wife of any sitting Vice-Chancellor. The mandate of the Centre is to groom children of staff and non-staff from kindergarten level to primary and make some revenue for the University. Female postgraduate students with young kids can visit the Centre and make arrangement for the care of their ward will they are busy with their studies. The school can be accessed through the entrance gate of the University Park and is close to the University Health Centre. The premise is fenced to protect the children from dangers and all parents and guardian must show their ID card before they could be allowed to come in and carry their wards or children.

Exchange and Linkage Office



The Exchange and Linkage office of the University of Port Harcourt is situated at the University Park of the University close to the entrance gate of the

University Park. The office is headed by a director who oversees the activities of the office on behalf of the Vice-Chancellor.

The mandate of the Unit is to serve as a link between the University of Port Harcourt and external agencies within and outside the Country. The Unit support the development of MoUs involving the university and support the settlement including acquisition of residency permits for non-Nigerian students who are undertaking academic programmes lasting more than a year in the University of Port Harcourt. The unit serve as a one-stop station for all information and support required by non-Nigerian students. The Exchange and Linkage Unit can be accessed by local and foreign students at any time by showing their ID cards to the desk officer as a means of identification.

Guidance and Counseling Centre

The Guidance and Counseling Centre of the University of Port Harcourt is situated at University Park of the University near the Sport's Complex and opposite the Convocation Arena. The Centre is headed by a Director. Guidance and Counseling Centre was set up in 2017. The mandate of the Centre is to build self-confidence, self-motivation as well as supporting services that will better the life of staff and students. The Centre offers counsel to students on how to cultivate a good reading culture. It also organizes seminars and train students on how to handle personal issues and avoid self-inflicted harm including suicide. Guidance and Counseling Unit of University of Port Harcourt provides services for both staff and students at the university. Staff of the unit are available to counsel staff and students and provide other support. Those who need their services can contact them through supportaceptutor@uniport.edu.ng. The Guidance and Counseling Centre is physically accessible to students any time. Students need to go with their ID cards and meet the desk officer of the Centre.

The Information Communication Technology Centre (ICTC)

The University of Port Harcourt has an Information Communication Technology (ICT) Centre located in the University Park near the University of Port Harcourt Teaching Hospital entrance gate just opposite Nelson Mandela Hostel.



The mandate of the Centre is to assist the students solve IT related issues bordering on their academics and payment of surcharges to the University. The Centre organizes periodic seminars and computer training for students and staff who are interested in improving their computer skills. The Centre drives the current virtual transformation in the university system and provides the facilities and expertise for the conduct of online examinations for students in the University using computer based test (CBT) as well as organize Post UTME examinations for the incoming students that have just passed JAMB. Students can access the Centre physically with their ID card through the front desk officer.

University of Port Harcourt Sports Facilities



Sport facilities are available in all campuses of the University of Port Harcourt, but the main sport complex and stadium is situated at the University Park of the University and can be accessed through the East-West

Road Gate of the University. This Sports complex houses lots of sporting facilities like the stadium, long tennis court, basketball court, changing rooms for athletes, table tennis court, karate court, swimming pool, track and football pitch, hotel and hostels to accommodate national and international athletes during sporting events etc.

The complex also hosts a sport institute which has been operational since 2014. All these facilities have contributed immensely towards the back-to-back wining of major sporting events by the University, organized by Nigerian University Game Association (NUGA), West Africa University Game (WAUG).The sporting facilities can be accessed freely by students and staff by showing their ID cards to the security staff manning the entrance to the complex. It is customary to see thousands of people engaging in various sporting activities at weekends, especially Saturdays.

Student Affairs Department

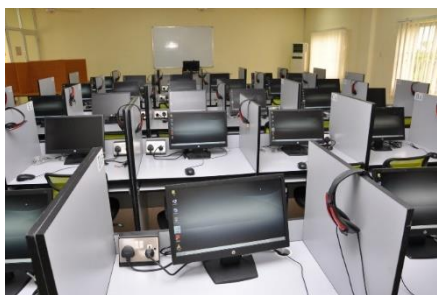
The University of Port Harcourt has a Student Affairs Department located at Choba Park of the University. Choba Park was the earliest site of the University when it was first established in 1975. The department which is headed by a Dean of Students' Affairs is fully responsible for all issues relating to students' accommodation, unionism on campus and short-listing of students for participation in the one-year mandatory National Youth Service Corp Programme. The Students can physically access the Student Affairs department by identifying themselves with student ID card anytime and lay their complaint. They can also access information and direct their complaint to the Dean through his phone number or the University email.

The University Health Centre



This is popularly known as the OB Lulu Briggs Health Centre after the name of the late philanthropist who donated the Centre to the University. The facility is visibly located by the

Delta gate into the University Park, opposite the Exchange and Linkage Office. All students and staff are eligible to receive primary care at this facility so long as they are duly registered with the Centre. The health insurance premium for the students are often included in the payment of their tuition and this entitles the students to a full package of comprehensive primary medical care and referral for specialist care at accredited facilities under the National Health Insurance Scheme.



Language Laboratory

The University has a language laboratory located in the complex for the African Centre of Excellence in Oilfield Chemical Research (ACE-CEFOR). This laboratory

which has a capacity of training 30 students in a session is run in collaboration with the University School for languages Studies as a Language appreciation class especially for the regional students. Also, short term courses in foreign languages are also conducted.

Students' specific issues

Students' voice

Each year the course members elect a representative who acts as a channel of communication between the course members and the staff, passing on comments or ideas about the course and associated issues. The Centre highly recommends this practice, as it helps to create a co-operative staff-course member rapport and provides the course members with a voice concerning matters that directly affect them. Occasionally, course members' representatives are invited to attend meetings of the Centre's Management Committee and are also co-opted into ad-hoc or statutory committees of the Centre. Students are also free to join any of the students' unions or clubs registered by the school authority. The details of registered unions can be obtained from the office of the Dean of Student Affairs.

Absence

From the point of view of management of the course, it is advisable for course members to inform the course instructors/coordinators if they are going to be absent for more than 2 days by completing the absence form attached in the appendix.

Illness

It is important in the case of illness for course members to immediately complete the Absence Form and forward it to the course instructor. Please remember to keep a personal copy of completed forms and sickness absenteeism is only valid when

authenticated by the Director of Medical Services in the university. All registered students can access comprehensive health service from the University's Health Centre as the Centre undertakes to subscribe for students' health insurance under the Tertiary Institutions Social Health Insurance Programme (TISHIP). Referral to specialists can also be made from the health centre. Students should ensure that they have their health card when they visit the health centre for routine and emergency care.

Student Advisor

All students are assigned advisors at the beginning of their programme. The relationship between the student and the advisor is pastoral and expected to be structured and formal. The report on the meeting of students and their advisors are made available to the Centre Management Committee. The advisor will support the student (especially foreign students) with the right information and career guidance that would assist them to navigate the university system successfully. The interaction between the advisor and the student shall be continuous, consistent and require the generation of periodic feedback. The advisor shall play a pastoral role in mentoring and assisting the growth and development of the students; ensuring that the student's academic pathways is maintained; assist in resolving logistical issues that the student may be faced with. The PhD students are expected to meet at least twice a year with their advisors and the interaction between the advisor and the student would be documented on the e-progress report.

Mentoring

Students are expected to join any of the mentoring schemes run under the various research groups in the Centre. These are suitable for all health care research whether from clinical or non-clinical backgrounds.

Research Groups

Typically, all students belong to one of the several research groups in the Centre. Although these research groups were established to entrench strategic thinking and long-term perspectives to research, they are also involved in routine short-term research. The membership of the research group includes academic lecturers, industry/sector experts, resident doctors, other health professionals, postgraduate students, undergraduate students. These groups meet regularly for learning and undertaking collaborative research. Postgraduate students can also seek assistance on their dissertation from the group.

Annual Academic Progress Report

The yearly academic report on each graduate student is prepared either by the student's advisors for part-time master's students and both the advisor and main supervisors for PhD students. This report is sent through the Centre's Academic Coordinator to the Centre Leader and Dean of the School of Graduate Studies. This report will show the academic standing of each student and determine what judgment to pass on each student at the appropriate time. This is to ensure that there is no permanent residency for any student.

Guidelines on Research Management

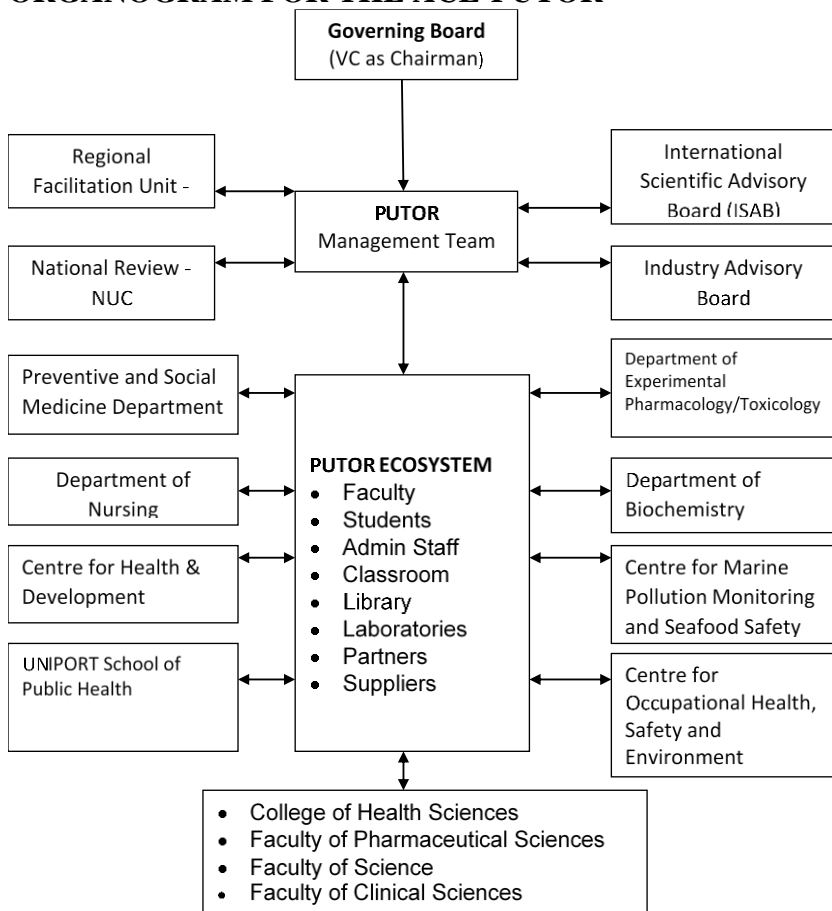
1. Africa Centre of Excellence in Public Health and Toxicological Research (ACE-PUTOR) Research Guidelines

- https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/ACE%20PUTOR/ACE-PUTOR%20Research%20Guideline.pdf
2. The University of Port Harcourt Sexual Harassment Policy -
[https://www.aceputoruniport.edu.ng/putor/public/sub/pdf/PUTOR%20SEXUAL%20HARRASSMENT%20POLICY\(1\).pdf](https://www.aceputoruniport.edu.ng/putor/public/sub/pdf/PUTOR%20SEXUAL%20HARRASSMENT%20POLICY(1).pdf)
 3. Africa Centre of Excellence in Public Health and Toxicological Research Environment and Social Safeguard Management Policy -
https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/ACE%20PUTOR/PUTOR%20Environmental%20Safeguards%20plan.pdf
 4. Africa Centre of Excellence in Public Health and Toxicological Research Policy on Students' Scholarship and Staff Incentives -
<https://www.aceputoruniport.edu.ng/putor/public/sub/pdf/ACE-PUTOR%20Policy%20on%20Student%20Scholarship%20and%20Faculty%20Incentive.pdf>
 5. University of Port Harcourt Intellectual Property Policy -
[https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/UNIORT/SP-2012-2013-027Fiv%20\(Intellectual%20Property%20Policy\).pdf](https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/UNIORT/SP-2012-2013-027Fiv%20(Intellectual%20Property%20Policy).pdf)
 6. University of Port Harcourt Standard Operating Policy for Research Ethics Committee -
[https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/UNIORT/SP-2012-2013-027Fv%20\(Standard%20Operating%20Procedures%20Research%20Ethics%20Committee\).pdf](https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/UNIORT/SP-2012-2013-027Fv%20(Standard%20Operating%20Procedures%20Research%20Ethics%20Committee).pdf)

7. University of Port Harcourt Research Management Policy -
[https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/UNIPORT/SP-2012-2013-027Fii%20\(Research%20Management%20Policy\).pdf](https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/UNIPORT/SP-2012-2013-027Fii%20(Research%20Management%20Policy).pdf)
8. University of Port Harcourt Research Management Policy and Strategy -
https://www.aceputoruniport.edu.ng/putor/public/policy_guidelines/UNIPORT/UNIPORT%20Draft%20Research%20Management%20Policies.pdf

Centre and Programme Administration

CENTRE COORDINATION AND MANAGEMENT ORGANOGRAM FOR THE ACE-PUTOR



The Centre Management Committee

This comprises the Centre Leader, the Centre Deputy Leader, the Centre’s Administrative Team Leader, the Academic Program Coordinator, the Applied Research Coordinator, the Partnership Coordinator, Project auditor and the Financial Management Coordinator. These meet monthly and take decisions on the day to day administration of all the activities carried out under the Centre

The functions of the management Committee include:

- Planning and coordinating review meetings and activities of the ACE project;
- Managing the project administration, preparing reports & presentations; providing management information accordingly;
- Develop methodologies for planning and implementation of project activities;
- Tracking progress against project plan and allocated budget;
- Development of project concept notes and terms of reference for project activities;
- Development of project annual work plan for NUC, ACE, and collating of work and procurement plans of all the ACEs for submission to World Bank and Association of African Universities.
- Draw-up budget estimates for line activities in the Work Plan and other ACE activities;
- Participate in meetings to share perspective as well as work collaboratively to contribute to achieving the Project Management team’s planned objectives and outcomes.

MEMBERS OF THE PUTOR MANAGEMENT COMMITTEE

Name	Designation
Daprim Ogaji	Centre Leader
Orish Orisakwe	Deputy Centre Leader
Onyewuchi Akaranta	ACE-IMPACT Coordinator
Kingsley Patrick-Iwuanyanwu	M&E Officer/Academic Programme Coordinator
Oluseye Babatunde	Applied Research Coordinator
Faith Diorgu	Partnership Coordinator

Best Ordinioha	Coordinator, Public Health
Catherine Ikewuchi	Coordinator, Nutritional Biochemistry/Toxicology
Anthonet Ezejiofor	Coordinator, Experimental Pharmacology/Toxicology
Josephine Gbobbo	Coordinator, Nursing/Midwifery
Nengi Isagua	Project Accountant
AnselemUmor	Project Auditor
William Wordi	Communication Officer
Nicholas Abule	Procurement Officer
Confidence Igwe	Head of Admin/Desk Officer

The Centre Academic Board

The members include

1. Professor Benedict Nduka (Chairman)
2. The Deputy Centre Leader (Deputy Chairman)
3. Provost, College of Health Sciences
4. The Centre Leader
5. Dean, Faculty of Clinical Sciences
6. Dean, Faculty of Science
7. Dean, Faculty of Pharmaceutical Sciences
8. Director, Centre for Marine Pollution Monitoring and Seafood Safety
9. Chairman, Graduate Studies Committee, School of Public Health
10. Chairman, Graduate Studies Committee, Department of Nursing Science
11. Chairman, Graduate Studies Committee, Department of Biochemistry
12. Chairman, Graduate Studies Committee, Department of Experimental Pharmacology

Terms of reference of the Academic Board:

1. Coordinate and control the quality of postgraduate tuition in the Centre
2. Require regular attendance of students during lectures and other academic activities
3. Review application for postgraduate admission and make recommendation to the Centre and the host university's School of Graduate Studies.
4. Promote group and multi-disciplinary academic training programmes in the Centre
5. Carry out other functions assigned to it by the Centre's Board and School of Graduate Studies

List of Potential PhD Supervisors

S/ N O	NAME OF STAFF	DESIGN ATION	Academic Qualifications	AREA OF SPECIALISA TION	Status
Pharmacology					
1	Prof L.L. Nwidu	Professor	Dip. Pub. Health B.Pharm, M.Sc, PhD	Ethnopharmaco logy / Toxicology: Hepatology & Neurotoxicolog y	Full- time
2	Prof. O.E Orisakwe	Professor	B.Sc(Hon), M.Sc, M.Phil, PhD	Pharmacology/ Toxicology	Full- time
3.	Prof J.S. Aprioku	Professor	PhD	Reproductive Toxicology	Full- time
4.	Dr. A.N. Ezejiiofor	Senior Lecturer	B.Sc (ed), PGD, M.Sc, AMLSCN, Ph,D	Toxicology	Full- time
5.	Dr. O.A. Shorinwa	Senior Lecturer	B.Pharm, M.Sc, MBA, PhD, FPC Pharm.	Ethnopharmaco logy; Inflammation	Full- time
Biochemistry					
6.	Dr.C.N. Amadi	Senior Lecturer	B.Pharm, M.Sc, PhD.	Toxicology	Full- time

S/ N O	NAME OF STAFF	DESIGN ATION	Academic Qualifications	AREA OF SPECIALISA TION	Status
1	Prof. D.C. Belonwu	Professor	PhD	Toxicology & Environmental Biochemistry	Full-time
2	Prof.E.N. Onyeike	Professor	PhD	Nutritional Biochemistry/T oxicology	Full-time
3	Prof.J.O.Akaniwor	Professor	PhD	Nutritional Biochemistry/T oxicology	Full-time
4	Prof. E.B.Essien	Professor	PhD	Nutritional Biochemistry/T oxicology	Full-time
5	Prof. M.O.Wegwu	Professor	PhD	Nutritional Biochemistry/E nvironmental Biochemistry	Full-time
6	Prof Francis Anacletus	Professor	PhD	Medical Biochemistry	Full-time
7	Dr.B.A. Amadi	Senior Lecturer	PhD	Nutritional Biochemistry/T oxicology	Full-time
8	Dr. C. U. Ogunka-Nnoka	Senior Lecturer	PhD	Nutritional Biochemistry/T oxicology	Full-time
9	Dr. O.E. Ezim	Senior Lecturer	PhD	Nutritional Biochemistry/T oxicology	Full-time
10	Dr Patrick-Iwuanyanwu, K.C	Reader	PhD	Nutritional Biochemistry/T oxicology	Full-time
11	Dr Catherine Ikewuchi	Reader	PhD	Nutritional Biochemistry	Full-time
12	Dr DE Peters	Senior Lecturer	PhD	Medical Biochemistry	Full-time
Environmental (Public) Health					
1	Prof B. Ordinioha	Professor	FMCPH, MD	Public Health, Environmental Health	Full-time

S/ N O	NAME OF STAFF	DESIGN ATION	Academic Qualifications	AREA OF SPECIALISA TION	Status
2	Prof Stephen Abah	Professor	FWACP	Environmental (Public) health	Part- time
3	Prof Daprim Ogaji	Professor	FMCPH, PhD	Health Systems and Public Health	Full- time
4	Prof O.B. Babatunde	Professor	FWACP	Epidemiology, Public Health	Full- time
5	Prof C.I. Tobin- West	Professor	FMCPH	Epidemiology, Public Health	Full- time
6	Prof Alphonsus Isara	Professor	FMCPH	Environmental/ Occupational Health	Part- time
7	Dr Enembe Okokon	Senior Lecturer	FMCPH, PhD	Environmental Health	Part- time
Others					
1	Prof. Onyewuchi Akaranta	Professor	PhD	Chemical toxicology	Full- time
2	Prof. Ibisime Etela	Professor	PhD		Full- time
3	Prof. Francis D. Sikoki	Professor	PhD	Ecotoxicology	Full- time
4	<u>Prof. Abbas Ali Mahdi (India)</u>	Professor	PhD	Toxicology	Part- time
5	Dr. Z. Igweze	Reader	PhD	Toxicology	Part- time
6	Dr I. Chijioke- Nwauche	Senior Lecturer	PhD	Toxicology	Full- time
7	Dr. Bolaji B. Babatunde	Senior Lecturer	PhD	Toxicology	Full- time
8	Chukwuemeka R. Nwokocha (University of West Indies)	Senior Lecturer	PhD	Toxicology	Part- time
9	Dr. Chiara Frazzoli (Italy)	Professor	PhD	Toxicology	Part- time
10	Dr. Cecilia Nwadiuto Amadi	Senior Lecturer	PhD	Toxicology	
11	Dr. Amaka Awanye	Senior Lecturer	PhD	Toxicology	Full- time

S/ N O	NAME OF STAFF	DESIGN ATION	Academic Qualifications	AREA OF SPECIALISA TION	Status
12	Dr. Farzana Mahdi (India)	Professor	PhD	Toxicology	Part- time
13	<u>Prof. Thuppil Vekantesh (India)</u>	Professor	PhD	Toxicology	Part- time
14	<u>William Tolleson (USA)</u>	Professor	PhD	Toxicology	Part- time
15	Dr. Kenneth Ezealisiji	Senior Lecturer	PhD	Toxicology	Full- time
16	Dr Aroloye Numbere	Senior Lecturer	PhD	Environmental Biology	Full- time
	Dr. Chinenye V. Obinna	Senior Lecturer	PhD	Reproductive Physiology & Toxicology	Full time
	Prof Wayne Grant Carter	Prof	PhD	Clinical Toxicology	Part- time

Partners and internship locations

The centre has established relationships with the following organizations where students field visits and attachment would be done:

INDUSTRY/INSTITUTION
Nigerian Institutions
Industry
BOSKEL Nigeria Limited
African Biosciences Ltd
Nestle Nigeria Plc
International Breweries Ltd
Shell - Occupational Health Department
Shell - Community Health Department
Cadbury Nigeria Plc
DUFIL-PRIMA FOODS LIMITED

Shell - Department of Environment
Research Institutes
National Institute for Pharmaceutical Research & Development
Centre for Clinical Research (UPTH)
Institute of Maternal and Child Health (UNIPORT)
Non-governmental Organisations
Hope and Care Foundation
Rhema Care Integrated Development Centre
Preventive and Public Health Consult
Youth PRO-FILE
World Health Organization
AFRICARE
FHI 360
United Nations Office on Drugs & Crime (UPTH Training Centre)
Nigerian academic institutions
University of Nigeria, Nsukka (Faculty of Pharmacy)
Nigeria Field Epidemiology and Laboratory Training Programme
University of Benin - Reproductive Health and Innovation
Hospitals
Rivers State Hospitals' Management Board
University of Port Harcourt Teaching Hospital
Rivers State University Teaching Hospital
Nigeria, Liquefied Natural Gas Company (Clinic)
RNZ Occupational Specialist Hospital
Nigeria National Petroleum Corporation (Clinic)
Chevron Nigeria Limited (Clinic)
Exxon Mobil Producing Unlimited (Clinic)

Government Agencies
National Agency for Food and Drug Administration and Control
Nigeria Center for Disease Control
Rivers State Ministry of Health
Rivers State Ministry of Environment
Bayelsa State Ministry of Health
Rivers State Primary Health Care Management Board
Rivers State Waste Management Agency
Federal Ministry of Health, Abuja
National Oil Spill Regulatory Agency
National Environmental Standards and Regulation Agency
National Primary Health Care Development Agency
Standards Organisation of Nigeria
Nigerian Meteorological Agency
National Population Commission
Councils and Associations
Nursing and Midwifery Council of Nigeria
Association of Public Health Physicians of Nigeria
Environmental Health Officers Registration Council of Nigeria
International Institutions
Universities
University of Ottawa - School of Nursing
Ensign College of Public Health
University of Sierra Leone
Durham University - Research Development Unit
University of South Australia - School of Nursing and Midwifery

Florida International University - Nicole Wertheim College of Nursing and Health Sciences
University of Toronto - Dalla Lana School of Public Health
State University of New York College at Cortland - Health Department,
University of Malawi - Public Health and Herbal Medicine

Academic staff associated with the centre

S/N	NAME	QUALIFICATIONS	DESIGN ATION	SPECIALISATION
	PUBLIC HEALTH			
1	Prof B. Ordinioha	MB, BS, FMCPH	Professor	History, Environmental Health
2	Prof O. Obunge	BSc, MD, PhD, FWACP	Professor	Microbiology/ Laboratory Practice
3	Prof O. Georgewill	B.Med Sc, MBBS, MSc, MD	Professor	Therapeutics
4	Prof Stephen Abah	MBBS, MSc, FWACP	Professor	Environmental Health
5	Prof Michael Asuzu	MB, BS, DOH&S; MSc; FMCPH; FFPHM	Professor	Clinical Epidemiology/Occupational Health
6	Prof Obekie Okojie	MBBS, FWACP, FMCPH	Professor	Occupational& Environmental Health
7	Prof Esther Isah	MB, BS, MSc, FMCPH	Professor	Occupational& Environmental Health
8	Prof Antonette Ofili	MBBS, MPH, FWACP, FMCPH	Professor	Occupational& Environmental Health
9	Prof Chima Onoka	MBBS, MSc, PhD, FWACP	Professor	Health Economics

S/N	NAME	QUALIFICATIONS	DESIGN ATION	SPECIALISATION
10	Prof Ben Wodi	PhD Public Health	Professor	Environmental Health
11	Prof Sanni Yaya	MSc Management; PhD Economics & Global Health	Professor	Global Health, Health Economics
12	Prof Ted Myers	PhD Health Promotion	Emeritus Professor	Health Promotion, Reproductive Health
13	Prof David Zakus	BSc Biochemistry. MSc Nutrition and Environmental Health; PhD Health Services Management	Professor	Health Services Management, Environmental Health
14	Dr Aaron Yarmoshuk	MSc Economics; PhD Global Health	Lecturer	Global Health, Sociology of Health, Research
15	Dr Alphonsus Isara	MBBS, MPH, FMCPH	Reader	Environmental/Occupational Health
16	Dr. Bolaji Babatunde	PhD	Senior lecturer	Radiation Toxicology
17	Dr. I. Chijioke- Nwauche	PhD	Senior lecturer	Environmental Health/Public Health

S/N	NAME	QUALIFICATIONS	DESIGN ATION	SPECIALISATION
18	Prof O.B. Babatunde	MBBS, Cert. Epid, FWACP	Senior lecturer	ICT/Research
19	Prof C.I. Tobin-West	MD, MPH, Adv Dip Mgt, FMCPH	Senior lecturer	Epidemiology, Reproductive Health
20	Prof D.S. Ogaji	MBBS, MQI, PhD, MNIM, FMCPH	Senior lecturer	Health System, Community Medicine
21	Dr K.E. Douglas	MBBS, DOccMed, FMCPH	Senior lecturer	Ethics, Occupational Health
22	Dr O. Maduka	MBBS, FMCPH, FRSPH	Senior lecturer	Principles and applied Epidemiology
23	Dr I.D. Alabere	MBBS, MPH, FMCPH, MNI,	Senior lecturer	Health Management, Seminar
24	Dr F. Adeniji	MBCH.B, MSc, FWACP (community Health)	Senior lecturer	Biostatistics
25	Dr Enembe Okokon	MBChB, MSc, PhD, FMCPH	Visiting	Environmental Epidemiology
26	Dr Oluyemi Olagoke Toyinbo	BSc, MSc, PhD	Visiting	Environmental Health/Toxicology

S/N	NAME	QUALIFICATIONS	DESIGN ATION	SPECIALISATION
27	Dr Jacob Atsu Mensah-Attipoe	BSc, MSc, PhD	Visiting	Environmental Health/Toxicology
	NUTRITIONAL BIOCHEMISTRY/TOXICOLOGY			
1	Prof. E.N. Onyeike	PhD	Professor	Nutritional Biochemistry/Toxicology
2	Prof. Akaninwor, J.O.	PhD	Professor	Nutritional Biochemistry
3	Prof. E.O. Orisakwe	PhD	Professor	Nutrigenomics & Toxicology
4	Prof. O.A.T. Ebuehi	PhD	Professor	Nutritional & Food Biochemistry & Nutrigenomics
5	Prof. Irene Ifeoma Ijeh	PhD	Professor	Nutritional Biochemistry /Toxicology
6	Prof. I. Imumorin	PhD	Professor	Molecular Nutrition/ Nutrigenomics
7	Dr. E.B. Essien	PhD	Senior Lecturer	Nutritional Biochemistry /Toxicology

S/N	NAME	QUALIFICATIONS	DESIGN ATION	SPECIALISATION
7	Dr. K.C Patrick-Iwuanyanwu, K.C	PhD	Senior lecturer	Nutritional Biochemistry/Toxicology
9	Dr. C.C Ikewuchi,	PhD	Senior lecturer	Nutritional Biochemistry/Toxicology
10	Dr. B.A. Amadi	PhD	Senior lecturer	Nutrition/Toxicology
	Dr. E. M. Ubiaru	PhD	Visiting	Industrial and Food Microbiology.
11	Dr. Chukwukeluo E.B. Chukwuogo	PhD	Visiting	Industrial
	ENVIRONMENTAL TOXICOLOGY			
1	Prof. Orish E. Orisakwe,	PhD	Professor	Toxicology/Pharmacology
2	Prof. Thuppil Venkatesh	PhD	Professor	Toxicology
3	Prof. Jerome Nriagu	PhD, DSc	Professor	Environmental Health Sciences
4	Prof. Judith T. Zelikoff,	Ph.D	Professor	Toxicology

S/N	NAME	QUALIFICATIONS	DESIGN ATION	SPECIALISATION
5	Prof. Chiara Frazzoli	PhD	Professor	Toxicology
6	Prof Abbas A. Mahdi	PhD	Professor	Toxicology
7	Prof. F. Sikoki	PhD	Professor	Eco-Toxicology
8	Prof. Leo Osuji	PhD	Professor	Eco-Toxicology
9	Prof Patrick U. Agbasi	PhD	Professor	Toxicology
10	Dr. Z. Igweze	PhD	Reader	Toxicology/Pharmacology
11	Dr. A.N, Ezejiofor	PhD	Senior lecturer	Toxicology/Pharmacokinetics
12	Dr. K.C. Patrick-Iwuanyanwu	PhD	Reader	Toxicology/ Risk Assessment
13	Dr. B,B, Babatunde,	PhD	Senior lecturer	Eco-Toxicity and Radiation Toxicology

Support Staff

Name	Designation
Confidence Igwe	Head of Admin/Desk Officer
Rossana Worlu	Students' support officer
Dr Daniel Ekpah	Head, IT
Collins	IT Support
Dr Nengi Isaqua	Finance Officer
Aselemi Umor	Internal Auditor
Uchenna Otamiri	Technical Assistant
Blessing Andy	Secretary
Chisa Anwuri	Cleaner
Roseline Amadi	Cleaner

Forms

Students' evaluation

Students are required to evaluate and provide electronic and confidential feedback on every module they have completed and later the entire programme at completion of their academic programme with the Centre. These evaluations are strictly for quality improvement purposes and must be filled online or using available paper forms which should be submitted by the course representative to the academic programme coordinator of the Centre at the end of the course

**Africa Centre of Excellence in Public Health and
Toxicological Research
University of Port Harcourt
Student Feedback Form – Training Course**

Programme: (a) PGD (b) MSc (c) PhD (d) Short course
Specialty: (a) Nursing (b) Environmental Health (c)
Environmental Toxicology (d) Nutritional Biochemistry
Title of course:
Course code:
Course delivery (a) Virtual only (b) face-to-face only (c)
blended

Kindly take few moments and complete this feedback form indicated by a ✓ in the relevant column

*Rating guide: 3 = excellent 4 = very good 3 = good
2 = acceptable 1 = poor*

Rating	1	2	3	4	5
Appropriateness of the course to current training					
Effectiveness of the course to future work					
Teaching methods used were appropriate and supported learning					

Students were encouraged to participate during lectures						
Consistency of the course workload compared to other courses						
Examination format						
Extent your expectation for undertaking the course was met						
Overall learning experience						
Logistics	Virtual learning environment (LMS)					
	Physical learning environment					
	Lecture schedule					
	Exam schedule					
	Overall logistics related to this course					
Course Faculty	Evaluation of individual instructor (poor) to 5 (excellent)		Rating from 1			
	Name of instructor being evaluated					
	Punctuality of the instructor					
	Expertise of the instructor					
	Teaching skills of the instructor					
	Teaching methods					
	Course materials					
	Engagement with students					
	Responsiveness to students' needs					
	Grade course assessments (formative and summative)					
	Overall teaching effectiveness					

Further suggestions (Twigs & Roses)

Name of Student: _____
 _____ (Optional)

E-mail:

Thank you for participating, we appreciate your feedback.

Report of Students' Evaluation of System, Courses and Instructors

2021 System Evaluation	
Criteria	% Good-Excellent
Ease of making application for study programme	83.7
Registration process	98.0
Response to students' inquiries	89.8
Promptness in communication	95.9
Ease of navigating through website	91.8
Informativeness of website	93.9
Ease of using ICT platform	75.5
Ease of making payment	83.7
Virtual Learning Environment	85.7
Physical Learning Environment	81.6

Sessional Comparison

Criteria	% Students rating session as good-excellent		
	2018/2019	2019/2020	2020/2021
Appropriateness of course	99.5	99.3	99.3
Usefulness to future works	99.2	99.3	98.4
Teaching Methods	96.5	99.1	98.6
Students' Participation	97.8	99.4	96.8
Course workload	97.8	98.4	95.2
Exam Format	94	96.3	89.9
Met Expectations	94.9	97.7	95.6

Overall Learning	96.2	98.7	97
Virtual Learning Env't	96.5	98.3	96.6
Physical Learning Env't	98.6	96.9	78.4
Lecture Schedule	99.2	97.7	94.4
Exam Schedule	97.6	96.7	90.7
Overall Logistics	97.3	98.2	96.4

Comparison across levels

Criteria	% Good-excellent across levels	
	MSc	PhD
Appropriateness of course	99.3	99.5
Usefulness to future works	98.9	99.5
Teaching Methods	98.2	99
Students' Participation	98.1	99
Course workload	97.2	98.1
Examination Format	93.9	92.8
Met Expectations	96.6	94.7
Overall Learning	97.4	98.6
Virtual Learning Environment	97.2	98.1
Physical Learning Environment	90.9	94.2
Lecture Schedule	96.9	97.6
Exam Schedule	95.3	93.2
Overall Logistics	97.2	98.6

MSc Instructors

Lecturer	Sex	Criteria - % of students that gave rating of good-excellent								
		Punctuali ty	Expertise	Teaching Skills	Teaching Methods	Course materials	Student Engagem ent	Responsi veness to sutdents	Assessm ent	Overall effective ness
Osaro Chenya	Female	97.8	97.8	97.8	98.6	97.1	98.6	98.6	93.5	100
Patricia Gbobbo	Female	100	98.6	98.6	99.3	97.8	98.6	99.3	97.8	99.3
Daniel Ekpah	Male	98.3	99.2	99.2	98.3	95.8	96.6	95.8	95	96.6
Adedayo Tella	Female	100	97.6	100	97.6	97.6	88.1	90.5	90.5	92.9
Chizoma Ndikom	Female	100	100	99.1	99.1	98.3	98.3	99.1	99.1	100
Chukwuogu	Male	100	100	100	100	99.2	99.2	98.3	99.2	98.3
Faith Diorgu	Female	100	100	99.6	100	99.6	98.7	98.7	98.7	99.6
Joel Aluko	Male	94.3	95.6	95.3	95.9	95.3	95.9	95.9	93.8	95.9
Splendid Chikaidili	Female	100	100	99.1	100	98.3	100	100	99.1	99.1
Elizabeth Ouali	Female	98.2	97.7	97.7	98.4	97.5	98.6	98	97.7	98.2
Josephine Gbobbo	Female	100	99.6	100	97.5	98.4	100	100	97.3	98.2
Seye Babatunde	Male	97.4	96.1	94.8	92.2	90.9	98.2	97.5	88.3	93.5
Josephine Etowa	Female	97.6	97.2	97.6	97.2	96.2	94.8	95.8	95.8	96.7
Mary Steen	Female	96.9	96.9	95.9	95.9	94.9	93.9	95.9	95.9	94.9

PhD Instructors

Lecturer	Sex	Level	Criteria - % of students that gave rating of good-excellent								
			Punctuali ty	Expertise	Teaching Skills	Teaching Methods	Course materials	Students Engagem ent	Responsi veness to sutdents	Assessm ent	Overall effective ness
Anthonet Ezejiofor	Female	PhD	98.1	98.1	100	100	98.1	100	100	98.1	100
Barile Baridam	Male	PhD	96.9	90.6	78.1	78.1	87.5	78.1	71.9	71.9	84.4
Catherine Ikewuchi	Female	PhD	100	100	100	100	100	100	100	94.1	94.1
Daprim Ogaji	Male	PhD	100	100	100	100	100	100	100	100	100
Enembe Okokon	Male	PhD	100	100	100	100	100	100	100	100	100
Jones Ayuwo	Male	PhD	90.9	90.9	87.9	90.9	90.9	90.9	87.9	87.9	90.9
K. Patrick-Iwuanyan	Male	PhD	96.2	94.2	96.2	96.2	88.5	94.2	96.2	94.2	96.2
Ken Ezealisiji	Male	PhD	92.9	92.9	92.9	92.9	92.9	92.9	92.9	85.7	92.9
Omosivie Maduka	Female	PhD	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9
Uchenna Ogoke	Female	PhD	96.7	96.7	96.7	93.3	96.7	93.3	93.3	93.3	93.2
Best Ordinioha	Male	PhD	100	100	93.8	93.8	100	100	100	100	93.8
Clifford Ofurum	Male	PhD	100	100	100	100	100	100	100	100	100
Eka Essien	Female	PhD	100	100	100	100	100	100	100	100	100
Ethelbert Nduka	Male	PhD	96.7	96.7	93.3	93.3	96.7	96.7	96.7	93.3	96.7
Ifeoma Ijeh	Female	PhD	100	100	100	100	100	100	100	100	100
Iyeopu Siminialaye	Male	PhD	100	100	100	100	100	100	100	100	100
Seye Babatunde	Male	PhD	100	100	100	100	96.6	100	100	96.6	100
Onyewuchi Akarant	Male	PhD	98.3	100	100	100	100	100	100	100	100
Orish Orisakwe	Male	PhD	88.5	92.3	80.8	76.9	84.6	76.9	76.9	84.6	80.8

Comparison across levels

Criteria	% Good-excellent across levels	
	MSc	PhD
Appropriateness of course	99.3	99.5
Usefulness to future works	98.9	99.5
Teaching Methods	98.2	99
Students' Participation	98.1	99
Course workload	97.2	98.1
Exam Format	93.9	92.8
Met Expectations	96.6	94.7
Overall Learning	97.4	98.6
Virtual Learning Env't	97.2	98.1
Physical Learning Env't	90.9	94.2
Lecture Schedule	96.9	97.6

Exam Schedule	95.3	93.2
Overall Logistics	97.2	98.6

AFRICA CENTRE OF EXCELLENCE
CENTRE FOR PUBLIC HEALTH AND TOXICOLOGICAL
RESEARCH
UNIVERSITY OF PORT HARCOURT



ACE PUTOR
UNIPORT

System evaluation

This form is strictly for quality improvement purposes and should be completed at the end of every module after the assessment

System					
Please complete the following by clicking on the appropriate option.					
Questions	Rating 0 (very bad), 1 (bad), 2 (average), 3 (good), 4 (excellent)				
How would you evaluate the registration process?	1	2	3	4	5
How would you rate the response time to your requests?					
Did we communicate promptly with you?					
Could you find all the information you need on the web site?					
Was it easy to make a payment?					
Was it easy to apply for a programme?					
Is the website informative?					
How would you rate the VLE (Virtual Learning Environment)?					
Is the module ICT platform easy to use?					
How would you rate the Physical Learning Environment)?					
Were the facilities/equipment easy to use?					
How would you rate the support provided by the students' enrolment officer?					

Is “My Page” useful?					
----------------------	--	--	--	--	--

General Comments

Use this area to leave your comments regarding our system

Thank you for your assessment

Feedback on field attachment¹

To be completed by supervisors of students in attachment for field/practical learning.

Please tick the most appropriate response using the following keys

A – Agree

U – Uncertain

D – Disagree

N – Not applicable

	A	U	D	N
I had a chance to discuss with the programme coordinators or was given details about my role as supervisors of the students doing an attachment in my organization				
I find the trainee well prepared for the attachment (background information and expectations)				
I believe that the trainee had a chance to observe our typical work situation (cases, problems)				
I think that the trainee understands better the opportunities and constraints involved in our work.				
I think that the trainee made the optimal use of the opportunities for learning we offered him.				
I think that the trainee has made satisfactory progress and accomplished the aims of the attachment.				

Comments:

¹Adapted from Self-assessment for teachers of health workers, (1982), WHO, Geneva

If you disagree with any of the statements made above, please offer your reasons. Also, if you think that some aspects of the attachment were especially useful, we would like to know about them (please use extra page if there is not enough space below)

.....
.....

Other suggestions.....
.....
.....

Would you recommend continuation of this internship scheme?
YES/NO/NOT SURE (circle whichever is appropriate)

Are you willing to help us again next year? YES/NO/NOT
SURE (circle whichever is appropriate)

If yes, how many interns are you willing to accept?

Kindly state if there is any preferred timing for the intake of
interns in your organization?

Absence form

Name:

Registration No:.....

Dates of absence:.....

Duration of absence.....

Reason(s) for absence.....

.....

Evidence(s) attached with application.....

.....

Course Member Signature: Date:.....

Instructor's Comment.....

.....

Date and signature.....

Centre Leader's Comment

Date and signature:



**AFRICA CENTRE OF EXCELLENCE FOR PUBLIC HEALTH
AND TOXICOLOGICAL RESEARCH
UNIVERSITY OF PORT HARCOURT
REPORT OF EXAMINATION MISCONDUCT**

NAME OF STUDENT/STAFF.....
STUDENT'S REGISTRATION MATRICULATION NUMBER....
STUDENT'S DEPARTMENT.....
COURSE NUMBER (if applicable).....
VENUE OF EXAMINATION (if applicable).....
LOCATION OF EXAMINATION
MISCONDUCT.....
DATE AND TIME OF EXAMINATION (if applicable).....
EXAMINATION OFFENCE (with evidence / statement if any).....
.....
.....
.....
.....
.....

CHIEF INVIGILATOR / INVIGILATOR'S SIGNATURE.....
WITNESS'S SIGNATURE (if
applicable).....
STUDENT'S COMMENT (if possible).....
.....
.....
.....
.....
.....

STUDENT'S SIGNATURE (if possible).....

AFRICA CENTRE OF EXCELLENCE
CENTRE FOR PUBLIC HEALTH AND
TOXICOLOGICAL RESEARCH
UNIVERSITY OF PORT HARCOURT



ACE
PUTOR **ATTENDANCE** **DURING** **INVIGILATION** **OF**
UNIPORT **EXAMINATION**

PROGRAMME: _____

COURSE TITLE: _____ **COURSE CODE:**

_____ **DATE:** _____

START TIME: _____ **STOPPAGE TIME:** _____

DURATION: _____

S/N	NAME	DESIGNATION	SIGNATURE

COURSE COORDINATOR SIGN:

Profiles of Centre's Administrators

Centre Leader



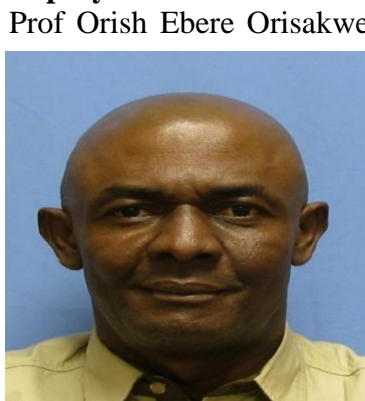
Prof. Daprim Ogaji was the former head of Department of Preventive and Social Medicine at the University of Port Harcourt and the Department of Community Medicine in the University of Port Harcourt Teaching Hospital. He graduated from the University of Port Harcourt and subsequently bagged - a Fellowship in Public Health from the National Postgraduate Medical College of Nigeria in 2006, master's in health quality improvement from the University of Helsinki and was later inducted into the Nigerian Institute of Management (Chartered). He is a Fellow of the International Society for Quality in Health Care and obtained a PhD in Medicine from the prestigious University of

Manchester. Daprim's teaching and research interests are focused on healthcare services research, quality improvement, improving access to healthcare, improving stakeholders' experiences, improving outcomes in the management of long-term conditions.

His methodological competences include quantitative research, evidence synthesis, health systems/programme evaluation, psychometrics and field trials. His professional competences span Health care, Public Health, Clinical Research, Medical Education, Health Management, Leadership, Health Policy, Quality Improvement, Global Health, Psychology, Qualitative Research, Applied Research, Community Health, Epidemiology, Primary Health Care, General Practice, Data Analysis, Health Promotion and Organisational Development

His involvement in the training of doctors, nurses and other allied health professionals over the years had resulted in the development of some taught postgraduate programmes in public health and the establishment of the World Bank funded African Centre of Excellence in Public Health and Toxicological Research in the University of Port Harcourt. Email: daprim.ogaji@uniport.edu.ng

Deputy Centre Leader



Prof Orish Ebere Orisakwe holds a PhD in Pharmacology & Toxicology of the University of Nigeria, Nsukka and his postdoctoral training in Health Canada. Author of over 250 publications, is the first Nigerian, European Registered Toxicologist ERT and the first African, Fellow of Academy of Toxicological Sciences ATS, USA. In 2017 alone, he had 17 articles cited in PUBMED. First African Speaker, Global Summit on Regulatory Science – Emerging Technologies for Food and Drug Safety (GSRS17), Brasilia, Brazil, September 18-20, 2017. He was coordinator of the African Society of Toxicological Sciences in Nigeria and presently one of the foundation mentors/President of West Africa Society of Toxicology and an

advisor of the Cameroon Society of Toxicological Sciences. He has served as a Visiting Professor to some universities in both Europe and the USA including developing programs in Global Health. Orish serves in the Editorial and Review boards of many PUBMED cited journals in USA and Europe. He is cited in many 'who is who' and several biographical reference listings in Environmental Toxicology, Public health and Risk Assessment. He is a scientific expert of the Joint FAO/WHO Committee on Food Additives, scientific expert for the World Health Organization WHO guideline development group – nutrition actions. He is a scientific

expert/consultant, Review of EFSA-FAO-WHO Developing a technical Guidance for Total Diet Study in Developing countries and consultant to International Council for Science (ICSU). Prof Orish is the first African to win the SOT Global Senior Scholar Exchange Program Award and a Visiting Scientist in US FDA. In 2012, with the help of his collaborators from both Europe and North America, he mounted the first MSc/PhD Toxicology program (University of Port Harcourt) as a stand-alone discipline in Africa. Orish has mentored many African Toxicologists. At the moment he serves a Visiting Scientist to US FDA where his current research is on the epigenetics of low dose metal mixture and non-alcoholic fatty liver disease NAFLD. Email: orish.orisakwe@uniport.edu.ng

Centre's Consultant



Professor Onyewuchi Akaranta is currently the Director, Science Institute and former Director, Centre for Research Management, (2010-2015), Exchange and Linkage Programmes Unit (2006 – 2010) at the University of Port Harcourt. He has held many academic and administrative positions at the University including Head of the department of Pure and Industrial Chemistry (1999 – 2001) and several committees in the University. He has also served as external examiner to a number of Nigerian Universities. Professor Akaranta is a fellow of Polymer Institute of Nigeria (PIN), a member of the Chemical Society of Nigeria (CSN), and Oil and Colour Chemists Association (OCCA) of United Kingdom. He is a member of West African Research and Innovation Management Association (WARIMA). He is listed in the Marquis Who is Who in Science and Engineering in 2003, 7th Edition. He obtained a B.Sc (2nd Class Upper Division) degree in Chemistry in 1978 from the University of Nigeria, Nsukka, M.Sc in Polymer Science and Technology in 1982 from Ahmadu Bello University, Zaria, and a Ph.D degree in Industrial Chemistry in 1995 from the University of Port Harcourt, Port Harcourt. Professor Akaranta has extensive experience in Agro-Wastes Utilization Value Addition. In 2007, he delivered an inaugural lecture titled, “Agro-Wastes Utilization: The Chemist’s Input”. For over thirty-five (35) years he has been conducting research on Conversion of Agro-Wastes to Industrial Raw Materials. Such raw materials have been used in the production of Adhesives, Ion Exchange Resins, Oilfield Chemicals, Paints and Paint Additives. He was the Project Manager, UniPort-World Bank STEP-B Project (2008 – 2013). He has published over 100 articles in reputable journals and authored several academic monographs. Email: onyewuchi.akaranta@uniport.edu.ng

Monitoring and Evaluation (M&E) officer/Academic Programme Coordinator



Dr. Kingsley Chukwuemeka Patrick-Iwuanyanwu is a Senior Lecturer in the Department of Biochemistry. He holds a PhD degree in Nutritional Biochemistry/Toxicology of the University of Port Harcourt, Nigeria. He is a scholar of the prestigious Harvard School of Public Health, Boston, USA in Analyzing risk: Principles, concepts and applications. Dr. Patrick-Iwuanyanwu is a recipient of The World Academy of Science-International Centre for Chemical and Biological Sciences (TWAS-ICCBS) Postgraduate fellowship award in 2009 to University of Karachi, Pakistan; He was among the 100 young scientists from around the world selected to attend The World Life Sciences Forum by BioVision (Lyon, France); He is a recipient of Society of Toxicology (SOT) /AstraZeneca IUTOX fellowship award in 2009; He is a member of the class of 2010

BioVisionAlexandria.Nxtfellows in **Alexandria, Egypt**. He served as a pioneer African representative and one of the founding Executive Members of Student Advisory Council (SAC) of Society of Environmental Toxicology and Chemistry (SETAC, EUROPE) from **2009-2011**. He was also a pioneer member of the Scientific Organizing Committee of the SETAC EUROPE-sponsored 1stYoung Environmental Scientists (YES) meeting at the **University ofLandau, Germany**.

Dr. Patrick-Iwuanyanwu is an author of several cited publications in peer-reviewed journals with research interests in the areas of Hepatotoxicity, Food safety, Risk assessments of toxicants and environmental pollutants in the food chain, Environmental Impact Assessment (EIA) surveys, Risk Assessment of hydrocarbon contamination and water soluble fraction of petroleum products, Evaluation of inhalation exposure of pollutants in the Environment using rat models, Reproductive toxicology, Exposure to contaminants and toxicological response of organisms at multiple tiers of biological organization (using experimental animal models) with a view to monitoring the source, fate, transport, and toxicity of contaminants. Dr. Patrick-Iwuanyanwu is a member of several professional bodies including Nigerian Society of Biochemistry and Molecular Biology (NSBMB); Africa Education Initiative (NEF, CT. USA); West African Society of Toxicology (WASOT); Society of Environmental Toxicology and Chemistry (SETAC, Europe); Society of Toxicology (SOT, Reston, USA); Society for Experimental Biology (SEB, UK). At the moment he is the Secretary General of West African Society of Toxicology (WASOT) and also serves as the Monitoring and evaluation (M&E) officer/ Academic programme coordinator of World Bank African Center of Excellence for Public Health and Toxicological Research (ACE-PUTOR), University of Port Harcourt. He is a mentor to many young early career toxicologists. E-mail: kc.patrick-iwuanyanwu@uniport.edu.ng; kc.patrick-iwuanyanwu@aceputoruniport@uniport.edu.ng

Partnership coordinator



Faith has a broad background in psychology, maternal and child health with specific training and expertise in phenomenology and survey research designs and thematic data analysis in qualitative studies. Faith have a vast amount of nursing and midwifery clinical/teaching experiences. Her wide remit of interests led her to undertake a second masters and PhD degrees in midwifery in the United Kingdom. Her important work is in the area of evidence-based practice in childbirth in Nigeria and Africa as vital in the promotion of women's autonomy and well-being during the birthing process. Her Ph.D study is titled "Perceptions and experiences of mothers, midwives, and obstetricians concerning birthing position and perineal trauma: A mixed methods study based in Nigeria", has led to excellent collaborative work undertaken in Port Harcourt, Nigeria. This collaborative work led to an on-going project "The making Normal Birth a Reality in Port Harcourt, Nigeria", which involves educating and training mothers, midwives, obstetricians and the community at large to implement evidence based normal birth practices which will enable women to birth in upright position to promote better health outcomes and reduce rates of perineal injuries. This led to her invention of a birthing chair to support women birth in various upright positions. She is also engaged in other collaborative studies with international counterparts as PI or co-investigator in Canada, UK, and Australia. Based on these previous experiences, She understands the importance of team work among project members and of building a realistic research plan, timeline, and budget to meet the target. Faith is *Nigeria's first doctorate in midwifery*

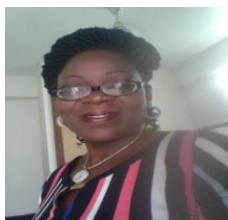
awarded by University of Chester UK and was awarded the Alumni Laureate award of the University of Nottingham, UK in 2018. Email: faith.diorgu@uniport.edu.ng



PROF. OLUSEYE BOLARINWA BABATUNDE MBBS (Ilorin), PgCertEpid (Liverpool), MPH (Liverpool), FWACP, FRSP is a Public Health Physician and Infectious Disease & Clinical Epidemiologist with two decades of experience in the design and evaluation of public health interventions in Nigeria, and the Niger Delta in particular. He is a Senior Lecturer in Epidemiology and Medical Statistics in the University of Port Harcourt, and Honorary Consultant in Community Medicine at the University of Port Harcourt Teaching Hospital, Port Harcourt. Recently, he served as a National Professional Officer (Malaria) at the World Health Organization (on Secondment from UNIPORT); and he is the current Acting Director, Centre for Health and Development at the University of Port Harcourt.

Coordinator, Experimental Pharmacology/Toxicology

Dr Anthonet Ndidamaka Ezejiofor holds PhD in Pharmacology and Toxicology from Abia State



University, Uturu, Abia State, Nigeria. Author of over 60 publications, an award winner of 2012 Outstanding Women in Science-Third World Organization of Women in Science (TWOWS). A registered member of many international organizations including Society of Toxicology (SOT), African Society of Toxicological Sciences in Nigeria and West Africa Society of Toxicology (WASOT). Research Fellow of The World Academy of Science (TWAS), 2017/2018. Dr Anthonet serves in the Editorial and Review boards of many

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Coordinator, Nutritional Biochemistry/toxicology



Ikewuchi, Catherine Chidinma is currently a Senior Lecturer in the Department of Biochemistry. She obtained her Ph.D in Nutritional Biochemistry/Toxicology from the University Port Harcourt. Her PhD work focused on the use of two plants in the management of some metabolic diseases such as diabetes mellitus, hypertension, hyperlipidaemia etc. Catherine is involved in the teaching and research activities at the Department of Biochemistry. She has extensive experience in teaching and research in the areas of Plant and Soil Biochemistry, Environmental Biochemistry, Nutritional Biochemistry and Toxicology and Industrial Biochemistry. Her research interest is in the investigation of the chemical compositions and toxicological/pharmacological profiles of nutritional and medicinal plants, and mushrooms as well as the management of non-communicable diseases (NCD) and metabolic disorders with our indigenous foods and vegetables. She has over 70 publications in peer-reviewed journals. She is an active member of the Society of Biochemists and Molecular Biologists of Nigeria (SBMBN). Email: catherine.ikewuchi@uniport.edu.ng



Coordinator, Public Health

Prof. Best Ordinioha is a Public Health Physician and Professor of Preventive and Social Medicine/Environmental Health at the Department of Preventive and Social Medicine, College of Health Sciences, University of Port Harcourt, Nigeria. He is also an honorary Consultant Community Physician at the University of Port Harcourt Teaching Hospital. He is a Fellow of the National Postgraduate Medical College, Faculty of Public Health and has research and specialty interest in Environmental Health and Public Health Nutrition.

Applied Research Coordinator

Internal Auditor

Aselemi Godpower Umor is a Principal Internal Auditor with the Internal Audit Department of the University of Port Harcourt with Membership of the Institute of Chartered Accountants of Nigeria (ICAN), a master's degree (UK) in Oil and Gas Accounting—with Distinction and a bachelor's degree in Accounting (Second Class upper). He has acquired years of experience with identifying potential risk areas in the course of audits and investigations; making sure controls are properly designed, implemented and operationally effective to mitigate risks. Email:

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Project Accountant

Nengi M. Isagua is a Chief Accountant in the Bursary Department of the University of Port Harcourt. She is a member of the Institute of Chartered Accountants of Nigeria (ICAN) and the Chartered Institute of Taxation of Nigeria (CITN). With a master's degree and currently a doctoral student in the University of Port Harcourt, Nengi has vast audit experience from the public and private sectors. She is saddled with the responsibility of preparing annual budgets, quarterly, half- yearly and yearly budget performance reports of the University, ensuring compliance in expenditure control for all payments in the University. Her areas of interest in research have been in 'financing of higher institutions in Nigeria, both in budgetary and Internally Generated Revenue in Universities. She has undergone several trainings including training on International Public Sector Accounting Standards (IPSAS) and attended various Accounting conferences. E-mail: nengi.isagua@uniport.edu.ng






ACE-PUTOR Procurement Officer



Engr Nicholas I. Abule is a Chief Engineer with the Works Department at the University of Port Harcourt and holds a bachelor's degree in civil engineering. He is a member of Nigeria society of engineers, a registered engineer (COREN) and a member of Nigeria Society of civil engineers. His area of expertise includes constructions, infrastructural development, maintenance, and management best practice.

	Clifford Obiyo Ofurum is a Professor of Accounting & Finance in the department of Accounting, Faculty of Management science of the University of Port Harcourt. He is Successful professor with broad scope experience encompassing lecture development, individualized instruction, and caseload management. Fosters a positive learning environment by encouraging students to develop skills at their own pace. Competent administrator who professionally supports the academic process with quality lecture, effective students' evaluation, and interpersonal skills. His core area of research are Management Accounting and Entrepreneurial Finance while his core skills include Team leadership/ collaboration, Strategic planning and Business plan development.
	Professor Akaranta (FPIN) is the Director, Science Institute and Coordinator of the two World Bank Centres of Excellence. Director, Centre for Research Management (2010 – 2015), Exchange and Linkage Programmes Unit (2006 – 2010), Head, Department of Pure and Industrial Chemistry (1999 – 2001). He obtained B.Sc degree in Chemistry in 1978 from the University of Nigeria, Nsukka; M.Sc in Polymer Science and Technology in 1982 from Ahmadu Bello University, Zaria and Ph.D. in Industrial Chemistry in 1995 from the University of Port Harcourt, Port Harcourt. His research interest: Conversion of agro-wastes into raw materials for production of industrial chemical products. He has over sixty (60) articles in reputable journals.
	NDUKA, Ethelbert is a Professor of Statistics in the Faculty of Science, University of Port Harcourt with effect from 2005. He holds a Ph.D from the University of Ibadan (1994). He was Dean of Science (2008-2010) and Deputy Vice-Chancellor, Administration (2011-2015) of University of Port Harcourt. He is a Fellow of Nigerian Statistical Association. His current research interest is on modeling in biometric studies, outliers/missing values in regression analysis. He has successfully supervised 5 Ph.Ds. His email address is below ethelbert.nduka@uniport.edu.ng. Download CV: CV_Nduka-Ethelbert-Chinaka_ecncv1.docx
	Dr. (Mrs) Ogoke earned B.Sc (Ed) (Mathematics) from the University of Nigeria Nsukka, M.Sc and Ph.D degrees in Statistics from the University of Port Harcourt. Presently she is a lecturer in the Department of Mathematics and Statistics, University of Port Harcourt. She has attended many local and international workshops and conferences where she presented her work and won a number of awards. She has published widely in both local and international journals. She is a member of relevant professional bodies such as Nigerian Statistical Association, Nigerian Mathematical Society and International Biometric Society, Washington DC, USA. She has her research interest in the area of biostatistics.
	Dr Barileé Barisi Baridam obtained his doctorate from the University of KwaZulu-Natal, Durban, South Africa in the field of Information Systems and Technology. He also did a PhD research with University of Pretoria, South Africa in the field of Computational Intelligence with emphasis on Bioinformatics. He teaches Object-oriented programming, Data Structures and Algorithms, Web Programming, Operating Systems, etc. He has single-handedly organised several public workshops on LaTeX and EndNote at his own cost at his current place of work. His research focus is Computational intelligence, Algorithm analysis, Databases and Information Systems and Technology.
	Daprim Samuel Ogaji obtained his doctorate from the University of Manchester in the United Kingdom. His health services research is focused on quality improvement, improving access to healthcare, improving stakeholders' experiences, and improving outcomes in the management of long-term conditions. His methodological competences are in quantitative research, evidence synthesis, health systems/programme evaluation, psychometric, and field trials.
	Jones Gilbert IjohAyuwo , holds a Bachelor of Arts (BA) degree in Kiswahili from University of Port Harcourt; Master of Arts (MA) Linguistics; University of Ibadan and a doctorate (PhD) in Linguistics and Communication (interface), University of Port Harcourt. His areas of expertise and experience covers: Applied Linguistics, Sociolinguistics, Pragmatics, Discourse Analysis and Ethnography of Communication. He teaches Research Methods and Entrepreneurship at both the undergraduate and post graduate levels for many years.

	<p>Prof Orish Ebere Orisakwe holds a PhD in Pharmacology & Toxicology of the University of Nigeria, Nsukka and his postdoctoral training in Health Canada. Author of over 250 publications, is the first Nigerian, European Registered Toxicologist ERT and the first African, Fellow of Academy of Toxicological Sciences ATS, USA. In 2017 alone he had 17 articles cited in PUBMED. He has served as a Visiting Professor to some universities in both Europe and the USA including developing programs in Global Health. Orish serves in the Editorial and Review boards of many PUBMED cited journals in USA and Europe. He is cited in many ‘‘who is who’’ and several biographical reference listings in Environmental Toxicology, Public health and Risk Assessment. He is a scientific expert of the Joint FAO/WHO Committee on Food Additives, scientific expert for the World Health Organization WHO guideline development group – nutrition actions. He is a scientific expert/consultant, Review of EFSA-FAO-WHO Developing a technical Guidance for Total Diet Study in Developing countries and consultant to International Council for Science (ICSU). Prof Orish is the first African to win the SOT Global Senior Scholar Exchange Program Award and a Visiting Scientist in US FDA.</p>
	<p>Dr. Kingsley Chukwuemeka Patrick-Iwuanyanwu holds a PhD degree in Nutritional Biochemistry/Toxicology of the University of Port Harcourt, Nigeria. He is a scholar of the prestigious Harvard School of Public Health, Boston, USA in Analyzing risk: Principles, concepts and applications. Dr. Patrick-Iwuanyanwu is a recipient of The World Academy of Science- International Centre for Chemical and Biological Sciences (TWAS-ICCBS) Postgraduate fellowship award in 2009 to University of Karachi, Pakistan. He is a recipient of Society of Toxicology (SOT) /AstraZeneca IUTOX fellowship award in 2009. He was also a pioneer member of the Scientific Organizing Committee of the SETAC EUROPE-sponsored 1st Young Environmental Scientists (YES) meeting at the University of Landau, Germany. Dr. Patrick-Iwuanyanwu is an author of several cited publications in peer-reviewed journals with research interests in the areas of Hepatotoxicity, Food safety, Risk assessments of toxicants and environmental pollutants in the food chain, Environmental Impact Assessment (EIA) surveys, Risk Assessment of hydrocarbon contamination and water soluble fraction of petroleum products, Evaluation of inhalation exposure of pollutants in the Environment using rat models, Reproductive toxicology, Exposure to contaminants and toxicological response of organisms at multiple tiers of biological organization (using experimental animal models) with a view to monitoring the source, fate, transport, and toxicity of contaminants</p>
	<p>Dr. Oluseye Babatunde MBBS (Ilorin), PgCertEpid (Liverpool), MPH (Liverpool), FWACP, FRSPH is a Public Health Physician and Infectious Disease & Clinical Epidemiologist. He lectures in Epidemiology, Medical Statistics and Research Methodology at the University of Port Harcourt and serves as the Acting Director for the Centre for Health & Development. He has been co-Investigator and co-Principal Investigator on several research projects involving the Liverpool School of Tropical Medicine (UK); the Niger Delta Environmental Studies (NDES); John D. & Catherine T. MacArthur Foundation and Ford Foundation (USA); and the Dalla Lana School of Public Health, University of Toronto and University of Ottawa (Canada). He recently served on the Technical Report Team of the 2015 Nigeria Malaria Indicator Survey among other National assignments as a WHO Technical Expert. Dr Babatunde heads the Applied Research Committee of the African Centre of Excellence for Public Health and Toxicological Research.</p>
	<p>Professor Onyewuchi Akaranta (FPIN) is the Director, Science Institute and Coordinator of the two World Bank Centres of Excellence. Director, Centre for Research Management (2010 – 2015), Exchange and Linkage Programmes Unit (2006 – 2010), Head, Department of Pure and Industrial Chemistry (1999 – 2001). He obtained B.Sc degree in Chemistry in 1978 from the University of Nigeria, Nsukka; M.Sc in Polymer Science and Technology in 1982 from Ahmadu Bello University, Zaria and Ph.D. in Industrial Chemistry in 1995 from the University of Port Harcourt, Port Harcourt. His research interest: Conversion of agro-wastes into raw materials for production of industrial chemical products. He has over sixty (60) articles in reputable journals.</p>

	<p>Professor Iyeopu Siminialayi BSc, MBBS, MSc, MD is a professor of Clinical Pharmacology in the Department of Pharmacology in the University of Port Harcourt, Port Harcourt. A former Provost of the College of Health Sciences, Dean of Faculty of Basic Sciences and Director of the Centre for Malaria and Phytomedicine, his research interest includes the interactions between malaria and other infectious agents in the tropics with man's intrinsic and extrinsic milieus. He is also widely published in studies focused on the clinical and public health impacts of metabolic disorders including substances that have potential ameliorative effects on them. Professor Siminialayi is the current Deputy Vice-Chancellor (Research & Development), University of Port Harcourt and serves on the Board of the African Centre of Excellence for Public Health and Toxicological Research.</p>
	<p>Dr. Anthonet NdidiamakaEzejiofor holds a PhD in Pharmacology and Toxicology from Abia State University, Uturu, Abia State, Nigeria. Author of over 60 publications, an award winner of 2012 Outstanding Women in Science-Third World Organization of Women in Science (TWOWS). A registered member of many international organizations including Society of Toxicology (SOT), African Society of Toxicological Sciences in Nigeria and West Africa Society of Toxicology (WASOT). Research Fellow of The World Academy of Science (TWAS), 2017/2018. Dr Anthonet serves in the Editorial and Review boards of many journals in USA and Europe.</p>
	<p>Ikewuchi, Catherine Chidinma Ikewuchi, Catherine Chidinma PhD is currently a Senior Lecturer in the Department of Biochemistry. She obtained her Ph.D. in Nutritional Biochemistry/Toxicology from the University Port Harcourt. Her PhD work focused on the use of two plants in the management of some metabolic diseases such as diabetes mellitus, hypertension, hyperlipidaemia etc. Catherine is involved in the teaching and research activities at the Department of Biochemistry. She has extensive experience in teaching and research in the areas of Plant and Soil Biochemistry, Environmental Biochemistry, Nutritional Biochemistry and Toxicology and Industrial Biochemistry. Her research interest is in the investigation of the chemical compositions and toxicological/pharmacological profiles of nutritional and medicinal plants, and mushrooms as well as the management of non-communicable diseases (NCD) and metabolic disorders with our indigenous foods and vegetables. She has over 70 publications in peer-reviewed journals. She is an active member of The Society of Biochemists and Molecular Biologists of Nigeria (SBMBN)</p>
	<p>Prof. Best Ordinioha is a Public Health Physician and Professor of Preventive and Social Medicine/Environmental Health. He is a Fellow of the National Postgraduate Medical College, Faculty of Public Health and has research and specialty interest in Environmental Health and Public Health Nutrition.</p>
	<p>Dr Enembe Okokon is a medical graduate of the University of Calabar, Nigeria. He completed residency training in Community Medicine in 2008. He has a master's degree in General Toxicology and Environmental Health Risk Assessment from the University of Eastern Finland, and a PhD in Environmental Epidemiology from the same University. He has interest in air pollution and noise epidemiology, and exposure assessments. These have been the focus of his recent research endeavour. He is also interested in statistical modeling, data mining, basic and advance research synthesis; he has attended numerous European short courses in those areas. Dr. Okokon provides lectures in Community Medicine to undergraduate medical students and teaches clinical epidemiology at master's level in the University of Calabar. He is a practicing clinician.</p>