

## EVALUATION AND ACCREDITATION DOCUMENTS

M.Sc. Biotechnology

Africa Center of Excellence in Neglected  
Tropical Diseases and Forensic Biotechnology  
(ACENTDFB)

Ahmadu Bello University  
Zaria

Nigeria

**September 2019**

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## EVALUATION REPORT

### **M.Sc. Biotechnology**

Africa Center of Excellence in Neglected  
Tropical Diseases and Forensic Biotechnology  
(ACENTDFB)

Ahmadu Bello University  
Zaria – Nigeria

**JUNE – 2019**



The Ahmadu Bello University has mandated the Hcéres to perform the evaluation of its Master in Biotechnology programme. The evaluation is based on the “External Evaluation Standards” of foreign study programmes, adopted by the Hcéres Board on October 4<sup>th</sup>, 2016. These standards are available on the Hcéres website (hceres.fr).

**For the Hcéres<sup>1</sup> :**

Michel Cosnard, President

**On behalf of the experts committee<sup>2</sup> :**

Dominique Laurain-Mattar, President of the committee

In accordance with the decree n°2014-1365, November 14<sup>th</sup>, 2014,

<sup>1</sup> The president of Hcéres "contresigne les rapports d'évaluation établis par les comités d'experts et signés par leur président." (Article 8, alinéa 5) — "countersigns the assessment reports made by the experts' committees and signed by their president" (article 8, alinea 5).□

<sup>2</sup> The evaluation reports "sont signés par le président du comité". (Article 11, alinéa 2) — "are signed by the president of the committee" (article 11, alinea 2).

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## I. STUDY PROGRAMME IDENTITY SHEET

University/institution: Faculty of Life Sciences, Ahmadu Bello University, Zaria, Nigeria

Component, faculty or department concerned: Biochemistry Department

Programme's title: M.Sc. Biotechnology

Training/speciality: Biotechnology

Year of creation and context: programme mounted in April 2014 and received accreditation in 2017 from National Universities Commission (NUC) of Nigeria

Site(s) where the programme is taught (Town and campus): Department of Biochemistry and Centre for Biotechnology Research and Training, Ahmadu Bello University (ABU), Zaria, Kaduna State, Nigeria

Programme director:

Surname, first name: Shuaibu, Mohammed Nasir

Profession and grade: Professor of Biochemistry and Molecular Parasitology and Head of Department

Main subject taught: Biochemistry, Molecular Biology, Pathobiology, Biotechnology

## METHODS AND RESULTS OF THE PREVIOUS ACCREDITATION(S)

Methodology and agency

Resource verification and programme accreditation carried out at same time by a panel of two Professors of Biotechnology on behalf of the National Universities Commission in March, 2017

Results: Scored 83.0%, Accredited.

## HUMAN AND MATERIAL RESOURCES DEDICATED TO THE PROGRAMME

Human resources:

Teaching staff: 34 (16 Professors, 4 Readers, 5 Senior Lecturers, 8 Lecturers, 1 principal Research Officer)

Non-teaching staff: 13.

8 national and international academic partners involved in education and research

9 national and international socioeconomic partners

Material resources

Overall impressive access to resources for the students:

- Use of computers for administrative and management functions across the university;
- Department linked to the university internet and wide area network;
- Extensive fibre optic network that forms the main backbone of internet services in the University;
- Access for students to digital library and bioinformatics facility;
- Wireless internet, dedicated website/web-page linked to the University website for dissemination of information to student and other stakeholders;
- Access into a network of libraries across universities in Nigeria based on the NgREN platform that offers access to research documents in other universities in Nigeria;
- Subscription to Elsevier/Science Direct /SCOPUS digital resources on an annual basis;
- Access to Health Internetwork Digital resources (WHO/HINARI) and the AGORA that provide thousands of journals and scientific publications;

- Main Kashim Ibrahim Library (KIL) is well over 1000 sq. m, contains a hybrid collection of printed materials, and other e-resources such as e-journals, e-books, electronic theses and dissertations (ETD), technical reports of research organizations, and bibliographic databases;
- Over five hundred computers connected to internet, digitizers and photocopiers;
- Several hotspots where wireless services are available for users of tablets, handsets, and laptops;
- Departmental Library has sets of computers and servers with internet facilities and shelves with hard copy books;
- Two lecture venues of 170.80 and 100.70 sq. m of 40 and 21 students capacities respectively, located at the Department of Biochemistry and one other venue (10.70 sq. m of 40 students);
- Each class room is equipped with a multimedia projector and in some with smart boards for interactive learning;
- Centre for Biotechnology Research and Training Library has 25 seating capacity with sets of computers, each set of computer has internet connectivity and is linked to the University main Library for access to on-line journals and books.

## STUDENT POPULATION: EVOLUTION AND TYPOLOGY OVER THE LAST 4 YEARS

S/No	YEAR	FEMALES	MALES	INTERNATIONAL STUDENTS	NATIONAL STUDENTS	TOTAL
1	2014/2015	6	6	-	12	12
2	2015/2016	5	6	3	8	11
3	2016/2017	2	8	1	9	10
4	2017/2018	1	3	-	4	4

## II. ON-SITE VISIT DESCRIPTION

### COMPOSITION OF THE EXPERTS PANEL

- Dominique LAURAIN-MATTAR, Professor, University of Lorraine, committee leader
- Valérie SCHINI-KERTH, Professor, Strasbourg University
- Frédéric RELAIX, Professor, Paris-Est University
- Mathilde COLAS, Student graduated from University of Technology of Troyes.

Hcéres was represented by Pierre COURTELLEMONT, science advisor.

### ON-SITE VISIT DESCRIPTION

- Date of the visit: June 10<sup>th</sup>, 2019.
- Organization of the visit: the visit was made the 10<sup>th</sup> of June, on the NUC site, during one day. On-site meetings with the management team, academic staff, closed meetings by videoconferencing with partners, alumni and students.
- Cooperation of study programme and institution to be accredited: perfect cooperation by all stakeholders, with the support of NUC team.
- People met (on NUC site):
  - Y.K.E Ibrahim, Centre leader
  - Aminu Mohammed, Post-graduate Teaching, coordinator,
  - Mohamed Nasir Shuabu, Head of Department
  - I.S. Ndams, Professor, Principal Investigator, Filariasis and Onchocerciasis
  - Sari Ibrahim, Professor, Principal Investigator, Forensic Biotechnology
  - Mohammed Mamman, Professor, Deputy Centre Leader and Principal Investigator, Trypanosomiasis
  - Junaid Kabir, project coordinator
  - H.M. Inuwa, director CBRT

students (David Yila Lakabra, Issa Funsho Habeeb, Eze Godson Ofobuke, Musa Muhammed Shaibu, Agee Jerry Tersoo, Kanu Brenda, Lamin Dibba, Kashim Aishat Shola, Ogbu Loina Chinyere, Maryam Sani Lawal (PhD), Raihana Abdullahi Idriss (PhD)) from MSc and PhD programmes

Partners

Dr Sunday isiyaku, country director of SightSaver, Nigeria & Ghana

Hazeez Durosomu, Inqaba Biotec Inc representative, West Africa, by video conferencing

Alumni (Funmilola Elizabeth Audu, Suleiman Mukhtar Adeiza, MSc graduates, PhD students and Assistant Lecturers).

### III. PRESENTATION OF THE STUDY PROGRAMME

#### 1 – PRESENTATION OF THE STUDY PROGRAMME

- The Africa Centre of Excellence in Neglected Tropical Diseases and Forensic Biotechnology (ACENTDFB) is one of the universities across Africa selected to setting up programs that will attract national and regional students aiming to concentrate resources and expertise in specific areas in order to improve the quality of postgraduate training and research in Africa.
- The postgraduate programme is part of a project that is intended to set up Centres of Excellence in Africa in selected thematic areas including health. ACE NTDFB focuses on using molecular biology and biotechnology tools and research outputs to improve the control of Neglected Tropical Diseases (NTDs) in Africa.
- The M.Sc. Biotechnology is entirely focused on studying the epidemiology of NTDs, answering key research questions relevant to field NTD control and eradication and utilizing molecular biology methods in developing novel preventive and treatment options. The NTD component of the project started in 2015 with disease research on Trypanosomiasis, Filariasis/Onchocerciasis and Rabies (high socioeconomic importance of these diseases in Nigeria). In 2019, the ACE NTDFB extended the project to cover three additional NTDs: Schistosomiasis, Trachoma and Dengue. The extension has been granted by the World Bank for another five years beginning in 2019.
- The aims of the MSc Biotechnology are to train skilled manpower for the diagnosis, management and prevention of neglected tropical diseases, to provide baseline data on the epidemiological status of a number of neglected tropical diseases prevalent in the study region (West and Central Africa), and to develop and produce vaccines and drugs for prevention and treatment of neglected tropical diseases.

#### 2 - PRESENTATION OF THE PROGRAMME'S SELF-EVALUATION APPROACH

The Project Management Committee of the Centre, headed by the Centre Leader, constituted the International Accreditation Committee for processing the self-assessment application. The Composition of the Committee was:

1. Prof Mohammed Nasir Shuaibu, HOD Biochemistry, Chairman
2. Prof Junaid Kabir, ACENTDFB Project Coordinator, Member
3. Prof Sani Ibrahim, Director, University Research and Innovation, Member
4. Dr E.O. Balogun, Staff of Biochemistry, Member
5. Dr Aliyu Salihu, Biotechnology Programme Postgraduate Coordinator, Member
6. Dr Aminu Mohammed, Biotechnology Programme Teaching Coordinator, Member.

The Committee met several times to collate all relevant documents and presented them to the Management Committee. Following consideration, the filled form with the documents were approved for submission to Hcéres.



## IV. EVALUATION REPORT

### 1- AIMS OF THE STUDY PROGRAMME

The M.Sc. Biotechnology study programme has explicit objectives with regard to knowledge and skills to be acquired. Communication of the study programme appears good, via website and regional collaborating institution. The study programme is clearly positioned in terms of further study programmes (notably through a PhD on Biotechnology on-site) and job opportunities with employment as academic and governmental staff in Nigeria and neighbouring countries.

The objectives of the study programme are clearly stated. The M.Sc. degree programme has a main objective: the production of manpower with skills in various aspects of biotechnology to solve relevant societal problems. The name of the study programme is in line with its objectives and content, although one can regret the lack of NTDs focus in the name. Communication about the study programme appears good, via website, regional collaborating institution.

Admissions requirements are clearly indicated. A description or Diploma Supplement is appended to the degree to specify the knowledge and skills acquired by the student in the Student Handbook. The outcome in term of job opportunities are clearly stated, with employment as academic in governmental or partner structures in Nigeria and neighboring countries. The programme is clearly positioned in terms of further study programmes, notably through a PhD training in the same University. Overall job outcome possibilities are excellent considering the national and regional environment, and 50% of the students are already employed when joining the training.

### 2 – POSITION OF THE STUDY PROGRAMME

The M.Sc. Biotechnology study programme is transdisciplinary and with a unique focus on Neglected Tropical Diseases providing an excellent position in the local, regional, national or international environment. The study programme has an explicit position with regard to the world of research. On-site research lab provides state of the art recent equipment. Laboratories and other higher education bodies or institutions, including international institutions, which could support the study programme were identified and engaged as collaborating partners. They were clearly listed. The general positioning of the M.Sc. Biotechnology training programme appears excellent.

The study programme is transdisciplinary and with a unique focus on Neglected Tropical Diseases providing a strong position in the local, regional, national or international environment. There is a clear link between the study programme and research, with on-site research laboratories providing state of the art recent equipments, despite a total reliance on imported reagents, consumables and equipment with limited capacity for maintenance and a lack of well-trained laboratory technologists. The current Research themes are on Trypanosomiasis, Filariasis, Onchocerciasis, and Rabies with an ongoing expanded focus to Trachoma, Dengue Fever and Schistosomiasis. The MSc Degree normally takes 12-18 months to complete.

The study programme explicitly states its relationships with businesses, associations and other cultural or industrial partners, including international partners. Participating Academic Units in the University have been identified (Departments of Biochemistry, Zoology, Pharmaceutics and Pharmaceutical Microbiology, Veterinary Public Health and Preventive Medicine, Human Pathology, Civil Law, Veterinary Parasitology and Entomology, Pharmacology and Toxicology). Appropriate national collaborations include the National Institute for Trypanosomiasis (and Onchocerciasis) Research (NITR), Kaduna, Nigeria, the National Institute for Medical Research (NIMR), Lagos, Nigeria, SightSavers Nigeria, Kaduna, Nigeria, Africa Field Epidemiology Network (AFENET), Nigeria, Friends for Global Health Initiative, Abuja, Nigeria, Inqaba Biotec West Africa , DNA Labs, Kaduna, Nigeria.

Collaborations have also been established with regional (University of Ngaoundere, Yaounde, Cameroon, Institute for Agricultural Research for Development (IRAD), Yaounde, Cameroon, Kumasi Centre for Collaborative Research (KCCR), Kwame Nkrumah University of Science and Technology, Ghana and Centre International de Recherche-Développement sur l'Élevage en zone Subhumide (CIRDES), Bobo-Dioulasso, Burkina Faso) and international institutions (University of Bremen, Germany, Institute of Tropical Medicine, Nagasaki University, Japan, J-WEL, MIT, Cambridge, Boston, USA, Centre for Science and Technology for Non Aligned

Movement and other Developing Countries (NAM S & T), Delhi, India and BVGH- Bio Venture for Global Health, USA).

The study programme explicitly states the added value of its partnerships with foreign higher education institutions. For instance, following successful ERASMUS Grant Joint research proposal submission, 2 students have performed bench work at the University of Bremen (Germany) in 2018, and 4 in 2019. In this context a biotechnology practical manual has been developed and Student research supervision has been joint. Similarly, 2 students are performing lab work at Nagasaki University, (NEKKEN) Japan in 2019. The general positioning of the M.Sc. Biotechnology training programme appears excellent.

### 3 – STUDY PROGRAMME TEACHING STRUCTURE

The M.Sc. Biotechnology study programme includes a set of teaching units that allow gradual specialization. The information and expected requirements from students are outlined in the *Prospectus of Postgraduate Programmes*. The content of the study programme contains practical work and prepare students for employment via appropriate information, including components that focus on understanding the world of research and its results. The study programme is also associated with a French Department offering a language conversion course in the university for French speaking students. The objectives, methods, requirements and assessment of projects and internships are explicitly stated. The content of the study programme is consistent with the requirements of the socioeconomic world, specifically preparing for work in NTDs. The study programme allows students to acquire additional training. A Supervisory Committee is involved in the guiding of students and successful programme completion. The study programme prepares students for the international environment by involving a large number of international academic partners involved in education and Research, from Europe, USA, Asia and Africa.

The study programme includes a set of teaching units appropriate for the objectives. The duration of each module and the workload expected of students are included in the *Prospectus of Postgraduate Programmes*. The structure of the study programme is adapted to the different student academic pathways, organized so that students can gradually specialize. In general, the information and expected requirements from students are outlined in the *Prospectus of Postgraduate Programmes*. The content of the study programme contains components to prepare students for employment and inform them about the working world, including components that focus on understanding the world of research and its results. Practical work components are part of the training. The study programme is also associated with a French Department offering a language conversion course in the university for French speaking students. Masters Project are at least 3 months duration, include field work and/or moderate laboratory/studio work with the objective of making one tangible contribution to knowledge associated with one publication. Master's Thesis contains field work and or moderate laboratory/studio work for at least 6 months duration and can lead to two publications. Microscopic/molecular studies can be included if relevant. The objectives, methods, requirements and assessment of projects and internships are explicitly stated.

The content of the study programme is consistent with the requirements of the socioeconomic world, specifically preparing for work in NTDs. The study programme allows students to acquire additional training (for instance, additional language, presentation skills) as a general University policy to expand teaching via online deployment. Additional fully-funded student internship and field activity are also possible. The study programme encourages the use of digital technologies through a specific partnership with MIT and access to online courses. Training Workshops have been organised for teaching staff in this context. Students use Powerpoint presentations and access to online journals, but access to innovative digital technologies remains limited and should be improved in the future.

The study programme offers specific tools for successful programme completion. A Supervisory Committee is involved in the guiding of students in selection and developing research Topics/titles, regularly consult with students and assisting with course selection, present required reports on student's progress, in liaison with the Department, ensure timely completion of postgraduate studies, certify all presentations and thesis/dissertation of candidates prior to presentations, endorsement of corrected and bound projects/theses/dissertations, assist and guide students in sourcing for research funds, presence at Seminars and defense of their postgraduate student. The study programme prepares students for the international environment by involving a large number of international academic partners from Europe, USA, Asia and Africa. List of active national and international socioeconomic partners are also provided.

## 4 – PROGRAMME MANAGEMENT

The M.Sc. Biotechnology study programme is implemented by a formally identified teaching and management team, with the role and responsibilities of members clearly defined. Administrative and teaching resources appear appropriate. Clearly identified committees are involved in programme management. Regarding knowledge assessment, the methods and evaluation rules as well as the composition, role and meeting arrangements of the various examination boards are defined and communicated to students. Monitoring of skills acquisition is performed via a student-specific portfolio. Little information is formally provided to potential candidates regarding graduate outcome, yet the job market access is excellent. The study programme is based on a publicly available quality assurance under the oversight of the School of Postgraduate Studies. Students are assigned supervisors from a body of expert Faculty who guide the student in the course of their studies and research. Quality insurance, ethics policy and overall programme management are excellent.

The composition, role and responsibilities of members of the teaching team are clearly defined. The complete list of active national teaching staff, including name, qualification, rank, status, area of specialization are provided. International academic partners involved in education and research are indicated, with name, Institution and Location, the nature of partnership, the email and telephone contacts. The proportion, skills and responsibility level are overall consistent with the aims of the teaching programme. Support to faculty members include for national and International workshops & conferences, Faculty exchange, Short research visits to regional and international laboratories and internship in industries, Payment for publications (page charge) and support for grant writing. Administrative and teaching resources appear appropriate.

Several clearly identified committees are involved in training management, including Project Management Committee, Project Academic Committee, Audit Committee and Procurement Committee.

The training include one year course work, practical/laboratory work, field work and internship, paper presentations and assignments, research proposal and result presentations in seminars. Regarding knowledge assessment, the methods and evaluation rules as well as the composition, role and meeting arrangements of the various examination boards are defined and communicated to students in the *Prospectus of Postgraduate Programmes*. Monitoring of skills acquisition is done via a student-specific portfolio. The student numbers and the different enrolment regimes for the study programme are clearly identified, However there is a low number of international students. Improving the recruitment and appeal to foreigners would strengthen the training programme.

Little information is provided regarding graduate outcome, this may be due to the fact that it is a young training programme, yet the job market access appears excellent. From 2007 till date, the Centre has trained well over 350 academics and technologists drawn from 18 tertiary educational institutions (13 Universities, 5 research institutes, etc.) in Nigeria, Cameroon and Sierra Leone in Recombinant DNA Techniques.

The study programme is based on a publicly available quality assurance under the oversight of the School of Postgraduate Studies (SPGS), which is an independent unit of the University. All new programs are channelled for approval of the University Senate through the SPGS and the Directorate of Academic Planning which vet at their own levels all submissions from departments and faculties. Students are assigned supervisors from a body of expert Faculty who would guide them in the course of their studies and research. Supervisory committees usually consist of a Faculty within the Department and another/other from an external relevant department in order to ensure diversity as a means of ensuring quality. In some instance students are also assigned supervisors from other national or regional universities. Postgraduate student arrange for a meeting of his/her postgraduate supervision committee (and serve as the secretary of such committee) (1) prior to his proposal seminar (2) once per semester (3) on completion of his/her work, (4) before the final seminar/internal defense, (5) before forwarding his/her project/thesis/dissertation to the Chairman of the Supervisory Committee. The study programme has defined and implemented anti-fraud and anti-plagiarism measures. Overall Quality insurance include continuous assessment and semester examination, assignments and term papers grading, seminar presentations, external vetting of examination questions and students responses, external examination of thesis and dissertations. Overall management of the M.Sc. Biotechnology programme management appears excellent.

## V. CONCLUSION

Neglected Tropical Diseases (NTDs) include a large (currently stands at 20, WHO, 2018) and diverse group of diseases that disproportionately affect health and livelihood of the poor in the developing world of the tropical and subtropical areas. They typically lack attention and funding for research and development. Monitoring and treating NTDs is an important public health challenge for Nigeria and regional countries. Absence of reliable national NTD surveillance data and structural instabilities such as security, power supply, changing government priorities and policies on funding education and research are challenging. The aim of the MSc Biotechnology training programme is to provide a reliable template to address problems of NTDs and related issues and their impacts on the socio-economic and health of the community in developing countries. The current research themes are on Trypanosomiasis, Filariasis, Onchocerciasis, Rabies with an ongoing focus expansion focus to Trachoma, Dengue Fever and Schistosomiasis.

The M.Sc. Biotechnology degree training programme main objective is to train manpower with skills in NTDs and solve this relevant societal problem. While the name of the study programme is in line with its objectives and content, yet one could recommend including NTDs focus in the name of the training programme. Communication about the study programme appears good, via internet and regional collaborating institutions.

Admissions requirements are clearly indicated. The outcome in terms of job opportunities are clearly stated, with employment as academic and governmental staff in Nigeria and neighbouring countries, or specialized governmental or partner structures. The programme is clearly positioned in terms of further study programmes, with PhD training in the same University for the best students.

Overall job outcome possibilities are excellent considering the national and regional environment. The study programme is transdisciplinary and with a unique focus on providing an excellent position in the local, regional, national or international environment. There is a clear link between the study programme and research, with on-site research laboratories providing state of the art recent equipments, despite a total reliance on imported reagents, consumables and equipment with very few capacity for maintenance. The laboratories, doctoral schools and other higher education bodies or institutions, including international institutions, which support the study programme have been identified. The study programme includes a set of teaching units communicated to the students that allow gradual specialization. Practical works prepare the students for employment, including understanding the world of research and its results. The study programme is also associated with a French Department a language conversion course in the university for French speaking students. The objectives, methods, requirements and assessment of projects and internships are explicitly stated and appropriate for future work on NTDs. The study programme also allows students to acquire additional specific training. A Supervisory Committee is involved in the guiding of students and successful programme completion. The study programme prepares students for the international environment by involving a significant number of international academic partners from Europe, USA, Asia and Africa. The composition, role and responsibilities of members of the teaching team are clearly defined. Administrative and teaching resources appear appropriate. Clearly identified committees are involved in training programme management.

Regarding knowledge assessment, the methods and evaluation rules as well as the composition, role and meeting arrangements of the various examination boards are defined and communicated to students. Monitoring of skills acquisition is performed via a student-specific skills portfolio.

Little information is formally provided regarding graduate outcome, yet the job market access is excellent. The study programme is based on a publicly available quality assurance under the oversight of the School of Postgraduate Studies. Students are assigned supervisors from a body of expert Faculty who would guide the student in the course of their studies and research. Overall Quality insurance and ethics policy is also good. The overall assessment of the M.Sc. Biotechnology is excellent.

## STRENGTHS

- Unique training programme in the West African region
- Outstanding individual support for students (Supervisory Committee)
- Availability of well-equipped research laboratories and support facilities
- Importance of NTDs in Nigerian health care and across the continent
- Recent and state of the art laboratory equipments available on-site
- Extension and expansion of the project in 2019 to cover three additional NTDs (Schistosomiasis, Trachoma and Dengue), boosting the capacity of the Centre both in terms of research facilities, manpower, partnerships and field engagement in the control of these diseases
- Diverse Faculty trained in universities across the world, Extensive collaborations with national and international academic institutions
- Large reservoir of applicants for postgraduate training in Nigeria, with a growing interest and importance of molecular biology in biosciences
- Multi-cultural learning environment
- Availability of a French Department language conversion course in the university for French speaking students.

## WEAKNESSES

- Low number of international students
- Total reliance on imported reagents, consumables and equipment with limited capacity for maintenance, and lack of well-trained laboratory technologists
- Access to innovative digital technologies remains limited.

## RECOMMENDATIONS

- Increase the number of international students by improving the programme recruitment and appeal to foreigners
- Increase number (currently 6) of NTDs selected for research in order to attract additional research grants
- Involve the University in improving national NTD surveillance data, if necessary by setting up specific collaborations/partnerships
- Improve access to innovative digital technologies
- Provide formal communication to candidates regarding work opportunities
- Increase/improve multidisciplinary collaborations in research
- Increase the number of industry partners and investors in NTD research and control
- Improve interaction with French-speaking neighboring academic countries
- Improve follow-up of students
- Include NTDs focus in the name of the training programme.

## VI. COMMENTS OF THE INSTITUTION



—ACE NTDFB



**AFRICA CENTRE OF EXCELLENCE FOR NEGLECTED TROPICAL DISEASES AND FORENSIC BIOTECHNOLOGY**  
**AHMADU BEELO UNIVERSITY, ZARIA, NIGERIA**  
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**VICE CHANCELLOR:** Prof Ibrahim Garba, BSc (Hons) Geology, MSc (Mineral Exploration), ABU, PhD Geol. (London)

**CENTRE LEADER:** Prof Y.K.E. IBRAHIM, B.Sc. Pharm., M.Sc. Pharm. (ABU), Dr. sc. hum. (Heidelberg)

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25<sup>th</sup> August, 2019

Pr. Dominique Laurain-Mattar  
President of the Committee of Experts  
HCERES  
2, rue Albert Einstein  
F-75013 PARIS

### **Response to the Draft HCERES MSc and PhD Biotechnology Programmes Accreditation Reports and their Recommendations**

The report provided is adjudged to be comprehensive and very fair. The strengths, weaknesses and recommendations are noted and well received. Overall, ACENTDFB is in agreement with the main thrust and conclusion of the report.

The recommendations, shall guide the Centre in its review of its programme plan management including strategic objectives and scheduling of activities. The Centre is cognizant of its weaknesses and is putting in place, measures to implement the recommendations.

- Expansion of the thematic NTD focus areas is a continuous process by the Centre and is guided by availability of expert for a more effective research direction and supervision and is also stakeholders driven. as was the case with SighSavers. Also, two students are currently working on sickle cells anaemia, a newly classified NTD and are being supervised by one of our researcher presently with NIH, Bethesda, USA. Efforts is being made to bring experts in other NTDs to key into the Centre's research programme. Following consultation with and presentation to the Federal Ministry of Health, a new unit, Centre for Anti-snake venom production has been established in the University and incorporated into the Centre. As a result, the Centre now has an additional Programme Leader for Anti-Snake venom research. Venomous snake bite is another recently classified NTD.
- Efforts are being made to recruit more foreign students. In the new academic session, six Cameroonians (3 MSc and 3 PhD) and one Sierra Leonean were recruited through one of collaborators, Dr Daniel Achukwi formally an employee of IRAD, Yaounde. Five of them have since resumed. Arrangement is being made with CIRDES also in this regard for Nigerien and Burkinabe students. Training workshop on Bioinformatics and Trypanosomal

DNA extraction is scheduled to take place in September, in Bobo Dioulasso. The workshop will be used as a platform for student recruitment.

- The Centre has recently recruited an Administration and Student Officer whose terms of reference includes providing needed information such as work place opportunities, internship placement, etc.
- On the issue of capacity for maintenance of the Lab equipment, a Lab Manager (Mr Auwal Usman) who has wide experience on equipment use, standardisation and maintenance was employed this year. His engagement had resulted in the re-training of the junior technical staff and technologists and review of GLP and SOP guidelines of the Centre (CV of Lab Manager). The Centre also entered into agreements with one of the major equipment vendors, Inqaba Biotech Inc. West Africa for the routine and periodic maintenance of the Lab equipment. Arrangement is being made with the Equipment Maintenance and Development Centre of the University to train the Lab technical Assistants of the Centre for Biotechnology Research and Training (CBRT) which houses the Labs facilities of ACENTDFB, on Basic Maintenance Skills and Equipment Calibrations.
- ACENTDFB intends to reactivate its collaboration with DNA Labs in Kaduna, Nigeria while discussion is ongoing with African Biosciences, Ibadan for a more productive and win-win partnerships. These two private organizations will expand internship placement opportunities to the students.
- At the institutional level, the Centre is linking up with the Distance Learning Centre as well as the Information and Communication Technology Centre (ICICT) of the University for the development of online platforms and deployment of course modules for students.



Prof Y.K.E. Ibrahim  
Centre Leader

cc.

- Michel Cosnard, President, HCERES
- Francois Pernot, HCERES Representative
- Pierre Courtellemont, HCERES
- Michelle Houppé, HCERES

## ACCREDITATION DECISION

### **M.Sc. Biotechnology**

Africa Center of Excellence in Neglected Tropical Diseases and Forensic Biotechnology (ACENTDFB), Ahmadu Bello University, Zaria, Nigeria

—  
**September – 2019**



## SCOPE OF THE ACCREDITATION GRANTED BY HCERES

HCERES has built its evaluation process based on a set of objectives that higher education institution study programmes must pursue to ensure recognised quality within France and Europe. These objectives are divided up into four fields among which are the accreditation criteria.

As for the "External Evaluation Standards", the accreditation criteria have been specifically designed for foreign programmes. The accreditation criteria were adopted by the Board on June 2016 and are available on the HCERES website ([hceres.fr](http://hceres.fr)).

The accreditation committee, meeting his accreditation decision, has wholly taken into account the final evaluation report of the study programme. This accreditation decision is the result of a collegial and reasoned process.

The accreditation decision issued by HCERES shall not grant any rights whatsoever, whether in France or abroad. The decision on training programme accreditation confers an accreditation label and does not infer recognition of the accredited qualifications. The HCERES accreditation process therefore has no impact on the qualifications recognition process in France.

# FULFILLMENT OF ACCREDITATION CRITERIA

## FIELD 1: AIMS OF THE STUDY PROGRAMME

### Accreditation criterion

The objectives of the study programme with regard to knowledge and skills to be acquired are clearly defined and communicated. Students and other stakeholders are aware of outcomes in terms of job opportunities and further studies.

### Criterion assessment

The M.Sc. Biotechnology study programme has explicit objectives with regard to knowledge and skills to be acquired. Communication of the study programme appears good, via website and regional collaborating institution. The study programme is clearly positioned in terms of further study programmes (notably through a PhD on Biotechnology on-site) and job opportunities with employment as academic and governmental staff in Nigeria and neighboring countries.

## FIELD 2: POSITION OF THE STUDY PROGRAMME

### Accreditation criterion

The study programme has set a comprehensive positioning suited to its objectives and including a clear link with research, scholarly partnerships and/or with the economic and social world, national and/or international partnerships.

### Criterion assessment

The M.Sc. Biotechnology study programme is transdisciplinary and with a unique focus on Neglected Tropical Diseases providing an excellent position in the local, regional, national or international environment. The study programme has an explicit position with regard to the world of research. On-site research lab provide state of the art recent equipment. The laboratories, doctoral schools and other higher education bodies or institutions, including international institutions, which support the study programme have been identified clearly listed. The general positioning of the M.Sc. Biotechnology training programme appears excellent.

## FIELD 3: STUDY PROGRAMME TEACHING STRUCTURE

### Accreditation criterion

The study programme includes a set of teaching units that are coherent, gradual and adapted to all kind of students. The study programme allows students to acquire additional skills that are useful for employment or further study.

Internships and projects are included in the study programme curriculum. So are Information and Communication Technologies in Education (ICTE) and education innovations. The study programme prepares students for the international environment.

### Criterion assessment

The M.Sc. Biotechnology study programme includes a set of teaching units that allow gradual specialization. The information and expected requirements from students are outlined in the *Prospectus of Postgraduate Programmes*. The content of the study programme contains practical work and prepare students for employment via appropriate information, including components that focus on understanding the world of research and its results. The study programme is also associated with a French Department a language conversion course in the university for French speaking students. The objectives, methods, requirements and assessment of projects and internships are explicitly stated. The content of the study programme is consistent with the requirements of the socioeconomic world, specifically preparing for work in NTDs. The study programme allows students to acquire additional training. A Supervisory Committee is involved in the guiding of students and successful programme completion. The study programme prepares students for the international environment by involving a large number of international academic partners involved in education and Research, from Europe, USA, Asia and Africa.

## FIELD 4: STUDY PROGRAMME MANAGEMENT

### Accreditation criterion

The study programme is implemented by a formally identified and operational teaching team including stakeholder and student participation. It is carried out by an educational team which benefits from clear and up-to-date data. Methods for checking knowledge are explicitly stated and communicated to students. Teaching and practical professional units are expressed in terms of skills.

Anti-fraud measures have been implemented.

### Criterion assessment

The M.Sc. Biotechnology study programme is implemented by a formally identified teaching and management team, with the role and responsibilities of members clearly defined. Administrative and teaching resources appear appropriate. Clearly identified committees are involved in programme management. Regarding knowledge assessment, the methods and evaluation rules as well as the composition, role and meeting arrangements of the various examination boards are defined and communicated to students. Monitoring of skills acquisition is performed via a student-specific portfolio. Little information is formally provided to potential candidates regarding graduate outcome, yet the job market access is excellent. The study programme is based on a publicly available quality assurance under the oversight of the School of Postgraduate Studies. Students are assigned supervisors from a body of expert Faculty who guide the student in the course of their studies and research. Quality insurance, ethics policy and overall programme management are excellent.

## ACCREDITATION DECISION

Considering the accreditation criteria analysis detailed above, the accreditation commission takes the following decision:

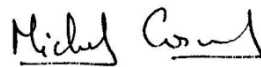
### **“Five-year unreserved accreditation decision”**

and draws attention to the various recommendations made by the committee of experts in its evaluation report:

- Increase the number of international students by improving the programme recruitment and appeal to foreigners.
- Increase number (currently 6) of NTDs selected for research in order to attract additional research grants.
- Involve the University in improving national NTD surveillance data, if necessary by setting up specific collaborations/partnerships.
- Improve access to innovative digital technologies.
- Provide formal communication to candidates regarding work opportunities.
- Increase/improve multidisciplinary collaborations in research.
- Increase the number of industry partners and investors in NTD research and control.
- Improve interaction with French-speaking neighboring academic countries.
- Improve follow-up of students.
- Include NTDs focus in the name of the training programme.

### **SIGNATURE**

For HCERES and on behalf of



Michel COSNARD,

President

Date: Paris, September 4<sup>th</sup>, 2019

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