

EVALUATION AND ACCREDITATION DOCUMENTS

M.Sc. Analytical Chemistry

Centre for Food Technology and Research
(CEFTER)

Benue State University

Makurdi, Nigeria

February 2024

CONTENTS

Evaluation report	pages 1 to 12
Comments of the institution	page 13
Accreditation decision	following pages

International evaluation and accreditation

EVALUATION REPORT

M.Sc. Analytical Chemistry

Centre for Food Technology and Research
(CEFTER)

Benue State University

Makurdi, Nigeria

February 2024

The Benue State University has mandated the Hcéres to perform the evaluation of its Analytical Chemistry M.Sc. programme. The evaluation is based on the “External Evaluation Standards” of foreign study programmes, adopted by the Hcéres Board on January 31st, 2022. These standards are available on the Hcéres website (hceres.fr).

On behalf of the experts committee¹ :

Anne Varenne, President of the committee

In the name of Hcéres¹ :

Stéphane Le Bouler, Acting President

¹In accordance with articles R. 114-15 and R. 114-10 of the Research Code, evaluation reports are signed by the chairman of the experts committee and countersigned by the President of Hcéres.

CONTENTS

I. STUDY PROGRAMME IDENTITY SHEET	4
II. PRESENTATION OF THE STUDY PROGRAMME.....	5
1 – Presentation of the study programme	5
2 – Presentation of the programme's self-evaluation approach	5
III. COMPOSITION OF THE EXPERTS PANEL	5
IV. VISIT DESCRIPTION	5
V. EVALUATION REPORT	7
1 – Training policy and characterisation	7
2 – Pedagogical organisation of the study programme.....	8
3 – Attractiveness, performance, and relevance of the study programme	9
4 – Academic programme management and continuous improvement	9
VI. CONCLUSION.....	11
Strengths.....	12
Weaknesses	12
Recommendations	12
VII. COMMENTS OF THE INSTITUTION	13

I. STUDY PROGRAMME IDENTITY SHEET

- University: Benue State University (BSU), Makurdi, Nigeria
- Department concerned: Department of Chemistry
- Title of the programme: M.Sc. Analytical Chemistry
- Year of creation and context: 2003, to teach and research in analytical and environmental-related issues and mitigation of post-harvest losses of crops
- Site where the programme is taught (town and campus): Department of Chemistry, Main Campus, Benue State University, Makurdi

PROGRAMME DIRECTOR

- Surname, first name: Adie, Peter Agorye
- Profession and grade: Associate Professor
- Main subject taught: Analytical Chemistry

METHODS AND RESULTS OF THE PREVIOUS ACCREDITATION(S)

- In 2017, the programme was evaluated by the National Universities Commission (NUC). The programme received its full accreditation by the NUC for 5 years, from March 2017 to March 2022.
- No previous international accreditation. However, three other programmes from this Centre of Excellence (M.Sc. Food Chemistry, M.Sc. Post-Harvest Engineering and Technology, Ph.D. Food Chemistry) were evaluated and accredited by Hcéres in 2019 for five years.

HUMAN AND MATERIAL RESOURCES DEDICATED TO THE PROGRAMME

- **Human resources**

Academic staff	Professors (Ph.D.)	Associate Professors (Ph.D.)	Senior Lecturers (Ph.D.)	Total	
	6	3	6	15	
Technical staff	Chief Technologist	Principal Technologists	Technologists	Total	
	1	3	4	8	
Administrative staff	Higher executive officer	Senior clerical officer	Computer operator/secretary	Messenger/Cleaner	Total
	1	1	1	1	4

- **Material resources:** the material resources dedicated to the programme include one laptop per student, interactive whiteboards in all lecture rooms, and a physical and virtual library. Classrooms are shared with other programmes at the CEFTER, and they include 13 lecture rooms, one lecture theatre, one seminar room, one examination room and one conference room. The programme uses the equipment of the Department of Chemistry, which includes a wide range of equipment, some of which were funded by the ACE programme, such as a spectrophotometer and two Kjeldahl Digestion Assemblies.

STUDENT POPULATION: EVOLUTION AND TYPOLOGY OVER THE LAST 4 YEARS

		2018/2019	2019/2020	2020/2021*	2021/2022*	2022/2023
Enrolment	Male	3	4	-	-	4
	Female	1	-	-	-	-
	<i>including foreigners</i>	2	-	-	-	-
	<i>including students with grants</i>	4	3	-	-	4
	Total	4	4	-	-	4
Graduates	Male	2	3	-	-	-
	Female	1	-	1	-	-
	<i>including foreigners</i>	2	-	-	-	-
	Total	3	3	1	-	-

*No admission for the 2020/2021 and 2021/2022 sessions, due to a spill-over effect of Covid-19.

II. PRESENTATION OF THE STUDY PROGRAMME

1 – PRESENTATION OF THE STUDY PROGRAMME

The Centre for Food Technology and Research is an African Centre of Excellence hosted by Benue State University in Makurdi, Nigeria. The Centre was established for the control of post-harvest food losses, with main focus on West and Central Africa regions. It analyses post-harvest losses as the major factor contributing to food insecurity in sub-Saharan Africa. Therefore, its objectives are to curb post-harvest losses and enhance agricultural productivity. The Centre's stated mission is to develop the next generation of scientists and agricultural scientists needed for the transformation of Africa's agriculture through high-quality research, teaching, learning, and knowledge dissemination. To run its programmes, the Centre collaborates with both academic and industrial partners, in Nigeria and abroad. Several programmes are hosted in the Centre, such as Food Chemistry, Post-harvest engineering or Food processing technology.

The M.Sc. Analytical Chemistry programme was initially created in 2003. It has been hosted by the CEFTER since the implementation of the ACE project supported by the World Bank in 2014. It aims to teach and research in analytical and environmental related issues and mitigation of post-harvest losses of crops. This programme from the Department of Chemistry offers a full-time programme of four semesters and a part-time programme (between five and eight semesters). There is no subspecialty and only one pathway is proposed to the students. The programme benefits from the equipment and facilities of the Department of Chemistry, and the Faculty teaches in several programmes. The academic, technical and administrative staff is shared with the whole Department.

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

Although the University has an internal quality assurance committee, no information was given about the way the self-evaluation approach was conducted. The self-evaluation report was very succinct, with essential information buried in the appendices. However, many additional documents were requested before and after the visit, and most of them have been received.

III. COMPOSITION OF THE EXPERTS COMMITTEE

- **Anne VARENNE**, Chair of the committee, Full professor, Chimie ParisTech PSL, Paris, France
- **Olivier BOUTIN**, Full professor, Aix-Marseille University, France
- **Olivier DONARD**, Research Director, CNRS, University of Pau, France
- **Julie FINKEL**, Ph.D. student, University of Montpellier, France

Hcéres was represented by **Zakia MESTARI**, project manager, Europe and International Department.

IV. VISIT DESCRIPTION

- **Date of the visit:** the visit took place on Wednesday 30th August 2023.
- **Summary of the proceedings:** before the visit took place, the self-evaluation report and some appendices had been received by the experts. Two preparatory meetings between the Director of the Hcéres Europe and International Department, the Hcéres project manager and the committee were held in Paris (28th July) and online (25th August). Following these two meetings, complementary documents and information had been asked. The on-site visit took place during one day, according to a schedule agreed between the ACE CEFTER and the committee. During the visit, the experts asked for many more documents to get quantitative data. Most of these documents have been received.
- **Organisation of the visit:** for safety reasons, the visit was organised in hybrid mode in Abuja and the committee was unable to visit the Centre in Makurdi. As the visit was carried out in hybrid mode, Centre Leaders and Quality assurance representatives were the only audience on-site. Interviews with an online audience were very difficult to conduct, especially with the students.

- **Cooperation of study programme and institution to be accredited:** ACE CEFER has been cooperative throughout the process. The self-evaluation report was sent according to the agreed schedule. Most of the questions asked were answered. The committee is satisfied that the conclusion reached is based on available and relevant information. Moreover, the involvement of the National Universities Commission has been very helpful throughout the process.
- **People met:** the experts' committee was able to meet with 39 people from different panels:

	Session	Audience
8:00 – 9:30	Presentation of both programmes (M.Sc. and Ph.D.) and discussion	Centre Leaders, programmes directors and their teams
9:30 – 10:30	M.Sc. and Ph.D. academic staff	Representative panel of academics from both programmes
10:45 – 11:45	Quality assurance	Quality assurance representatives
11:45 – 12:45	Alumni	Representative panel of alumni
14:00 – 15:00	Socio-economic partners and employers	Representative panel of socio-economic partners and employers
15:00 – 16:30	M.Sc. and Ph.D. students	Representative panel of students from both programmes
16:30 – 17:30	Closing session	Centre Leaders, programmes directors and their teams

V. EVALUATION REPORT

1 – TRAINING POLICY AND CHARACTERISATION

The M.Sc. in Analytical Chemistry is in line with the Centre for Food Technology and Research objectives, which are dedicated to resolving post-harvest losses, a main food insecurity factor in Sub-Saharan Africa. It has been integrated in the CEFTER programmes since 2013, within a multidisciplinary approach with other trainings. The programme is fully complementary to other programmes also accredited by the National Universities Commission (i.e. Food science and technology, Biostatistics, Post-harvest physiology of crops and management, Food chemistry, Analytical/environmental chemistry, Organic/natural products' chemistry, post-harvest engineering and technology, rural sociology and agricultural extension). These programmes contribute to quality higher education and research, and manpower development.

The programme is developed in a coherent and complementary way within the Department of Chemistry. The students are formed to approach and solve problems, in the context of food products, and the visibility, as well as the quality, of the programme is recognised and appreciated by the industrial partners. Moreover, in the national and regional academic environment, this programme is recognised for compulsory internships in dedicated industries, providing training with a strong link to socio-economic issues. The programme takes part in the World Bank's ACE Impact project, indicating the complementary with other programmes in Africa.

The CEFTER is located at the New CEFTER Postgraduate Complex, near the University main campus. This unicity of location at the country scale is an asset for training and research activities. The coordination of the programme is well-defined, clear, and appropriate for the staff and students. The M.Sc. programme is developed in consistency with the Ph.D. in Analytical Chemistry, with a continuum from M.Sc. to Ph.D. courses. It allows the graduated M.Sc. students to continue on to a doctorate within this Ph.D. programme. Moreover, the M.Sc. programme leader, the academic, administrative and technical staff are the same as for the corresponding Ph.D. programme. The Faculty is composed of 15 academics, all Ph.D. holders. The teaching staff is mainly dedicated to the M.Sc. and Ph.D. Analytical Chemistry programmes (some of them also provide some courses at the interface with Food and Environmental Chemistry). They undergo their research in the same domain and at its interfaces (analytical, organic, physical, polymer to industrial chemistry) with focuses on Environmental and Food Chemistry, Biofuel, and Statistics.

The M.Sc. programme includes courses in the scope of Analytical Chemistry and at its interface, as well as core courses in management and entrepreneurship. No specific training in research integrity and ethics is provided to the M.Sc. students; it is embedded in other courses, and dissertation submitted by any student is subjected to plagiarism test before acceptance for external examination. As indicated above, the study programme includes a mandatory internship (3 months) in Nigerian agro-based and other relevant industries or establishments for practical experience. Furthermore, students go through an interactive fieldwork experience three times before graduation. Although the integration of innovation would help the development of innovative processes, it is still limited.

The training offers facilities for investigation through the new Postgraduate Centre with laboratories such as the Food Processing Lab, but also the laboratories of the Department of Chemistry. A practical laboratory is equipped with various materials, and is open to M.Sc. students. They are supervised by at least one professor. The programme provides scientific resources to students and academic staff, mainly online. Funding for the research of M.Sc. students, grants for taking part in conferences or for publications come from CEFTER research grants awarded to the academics. However, few grants are available for students.

The programme has five national and eight regional and international academic or private partners. The identified main benefits from the signed memorandums of understanding concern staff and student exchanges, joint teaching (mainly online with foreign professors) research, joint research projects and curriculum evaluation. In the context of daily insecurity in the university region and financial constraints, internationalisation is still limited. During the 2018-2022 period, only two international students were recruited, and no outgoing mobility was performed because of the same constraints, along with difficulties in getting a visa.

The programme considers the socio-economic needs of the country and the region concerning post-harvest losses. Partnerships with concerned institutions (Nigerian Stored Products Research Institute; Benue Agricultural and Rural Development Authority, National Root Crops Research Institute, Akperan Orshi College of Agriculture) and industries (Agudu Farms Limited Gboko, Teragro Commodity Limited) allow providing courses and lectures, students' internships and community services. The connection with these partners helps the preparation of students for the job market and the understanding of the problems to solve for students and academic staff.

In conclusion, the policy and strategy of the M.Sc. programme in Analytical Chemistry is totally consistent with the CEFTER objectives, and complementary to other M.Sc. programmes at the CEFTER. The M.Sc. programme is well-structured, with basic and applicative courses and core courses on entrepreneurship. However, no course on integrity and ethics in research is proposed to the students. It is well recognized in the national teaching offer with a specific strong interaction for the students with the industrial partners in the food industry, considering the socio-economic needs. Indeed, their mandatory internship in industry and agriculture is a real strength of this programme. Furthermore, equipment facilities and efficient interaction with the supervisors allow the students to conduct their research in good conditions. The programme is well known and appreciated by the national academic and industrial partners. They are involved in all stages of the programme, which could further integrate students into the job market. However, the internationalisation of the programme remains limited due to funding constraints and national safety concerns. Stronger links to innovation would benefit the programme.

2 – PEDAGOGICAL ORGANISATION OF THE STUDY PROGRAMME

The M.Sc. programme in Analytical Chemistry is well-structured. It is defined in the student handbook concerning objectives, contents, teaching methods and learning outcomes. The training is divided into two academic sessions: two semesters of teaching core and elective courses, and two semesters for a research work. The study programme includes a mandatory internship in Nigerian agro-based and other relevant industries or establishments for practical experience. The industrial partners appreciate the excellent training of the students who perform these internships.

All courses are evaluated by graded exam, and the final dissertation defence achieves the graduation. The grading is well-detailed within the standards recognised by the National Universities Commission. The courses taught in analytical chemistry are focused on mainstream topics of Analytical Chemistry, such as Applied Chemistry, Advanced Kinetics and Catalysis, Quality assurance and Quality control, Basic Spectrochemical Methods and Advanced Electrochemical Analysis. These teaching courses are supported by a wide array of instrumentation well adapted to both the teaching objectives and later to their use for the development of student projects. This equipment is maintained by a dedicated staff organised through an operational procedure in the detailed Quality Control document of the CEFTER. A core course on management and entrepreneurship is also provided in the programme. This entrepreneurship is expressed during a special day when all the new food products developed by the students are presented to the public. This general attitude open towards entrepreneurship results in the development of eleven start-ups within the CEFTER, some of them directly initiated at the M.Sc. level. Workshops are organised inside or outside the Benue State University (at the University of Mkar, Nigeria, for example).

The M.Sc. in Analytical Chemistry is provided by 15 permanent Associate professors, professors and senior lecturers. Some of them had previous training in European universities and use this experience to promote continuous improvement in the teaching procedures. This is typically the case with the close partnership with a Danish University, which allowed the implementation of new teaching strategies. During the whole teaching and training period, each student has one or two mentors to help. These mentors can sometimes continue the supervision later, at the Ph.D. level. The teachings at the University are completed with online teachings or MOOCS. Online teaching can represent between 30 and 50% of the courses. The attendance is also carefully checked.

The programme is taught in English, which is the official language of the country. The programme is therefore adapted to foreign students. The Nigerian students would, however, benefit from learning another language, which is not the case.

The programme content is totally consistent with the needs of the socio-economic world. The partnerships with industries are well-structured, providing courses and lectures, students internships and community services. The mandatory internship in industry allows the students to work on the issues of post-harvesting.

In conclusion, the M.Sc. programme of the CEFTER is well-focused and relevant in terms of topics regarding post-harvesting, a key question in this area of Nigeria. The courses are taught by experienced staff, some of them presenting a previous international experience that benefits to the programme. The students are followed during their whole training by one to two supervisors. The programme is linked to other universities (Nigerian, African and mostly European universities) and well-integrated into a network of industrial partners. This excellent environment provides students with high quality placements. However, due to external constraints (economic and security issues), incoming mobility is limited. The increase in the number of students would benefit this high-quality education.

3 – ATTRACTIVENESS, PERFORMANCE, AND RELEVANCE OF THE STUDY PROGRAMME

The CEFTER has a quality control document that is very detailed and follows carefully the student from the recruitment procedures to the learning and assessment procedures. The website clearly presents these evaluations. There is no information on how the programme formalise the measurement of its attractiveness towards the different types of audience, but the industrial partners and alumni are fully satisfied by the programme contents and the students' quality. Applicants are aware that a cumulative grade point average (GPA) of 3.0/5.0 is mandatory to be recruited, which is a sign of an attractive programme.

The students are asked for an assessment of the courses, common for all the CEFTER. For instance, the Lecturer & Course Evaluation Questionnaire allows the students to rate the relevance of the programme with questions concerning the Lecturer himself or the content of the course and its relevance to a further career.

The success rate of the students is monitored by the programme and the Centre. However, no information is provided on the analysis process and on the impact on the programme. It must be underlined that during the 2019-2023 period, two years are nearly blank for students, due to the Covid-19 pandemic and social constraints.

The job-market integration is provided for four (of seven) M.Sc. students in Analytical Chemistry. They were recruited in the Ministry of water Resources and Environment of Nigeria, in "Adhoc Staff Apin Public Health Initiatives", in a strategic Humanitarian service in Cameroon, and at Nestlé in Cameroon.

In conclusion, although the programme is attractive to students, its attractiveness, performance and relevance are only rudimentarily tracked, as only basic data on student success and integration are provided. The analysis and impact of evaluations are not clearly defined for the programme's development and should be implemented.

4 – ACADEMIC PROGRAMME MANAGEMENT AND CONTINUOUS IMPROVEMENT

The supervision policy of the M.Sc. programme, integrated within the CEFTER, is clear. The Head of Department coordinates the activities and is supported by academic and technical staff. The University Management and Centre Management contribute to the management of the programme, with regular interactions with the academic staff and the students. The programme organisation is clearly defined and communicated to both staff and students. The administrative and pedagogical resources are coherent and appropriate with the programme. The 15 identified experienced senior academics are all holding a Ph.D. from Nigerian or foreign universities (University of Benin, Nigeria; University of Aberdeen, United Kingdom; Loughborough University, United Kingdom). Their teaching and research main topics go from analytical, organic, physical, polymer to industrial chemistry, with focuses on environmental and food chemistry, biofuel, and statistics. The programme integrates eight technical staff and four administrative staff, and the library of CEFTER is available for staff and students. It also provides access to an e-library for students and staff.

The programme is well-identified and described on the website for potential candidates. Student recruitment procedures are well-defined and available online (from application to administrative registration) on the CEFTER website. They are conducted by the postgraduate academic unit and the programme coordinator is informed at the end of the process.

The M.Sc. programme is housed in a new Postgraduate Complex with offices, lecture rooms, seminar rooms, laboratories, housing for both female and male students, all supported by a 24-hour internet connectivity. The academic staff received e-contents for continuous improvement (courses for training on teaching methods, for example), which are beneficial for the programme and allow a very fluid interaction between students and supervisors. A software for anti-plagiarism is available for the programme.

Financial resources arise from the World Bank, the TETFund, Benue State Government and Benue State University, as well as DAAD scholarships. A scholarship policy is communicated to the students, but the data provided by the programme do not allow estimating the proportion of grants, scholarships, or funds for research provided to the students and staff.

The programme is based on a quality and ethic-based approach, guided by the University Quality assurance and Ethics Policy, and monitored by the Directorate of Academic Programme and Quality assurance Directorate. It includes a policy on sexual misconduct. The assessment of the programme is performed by established procedures through an electronic survey, under the supervision of the directorate of academic program and quality assurance. Performed at the end of the course, the responses (with a rate of 85%) are analysed by this Department. The entire assessment is not provided to the programme. It provides feedback to

the programme leader and staff only in the event of difficulties identified by the students in the survey. Due to the fluid contact between students and staff, regular meetings and a WhatsApp platform allow exchanges and possible evolutions or corrective actions during the whole programme. The programme is discussed every five years, according to the National Universities Commission assessment, the daily interaction with the concerned industries and the integration of partners for the renovation process.

In conclusion, the M.Sc. programme is supported by the institution's human resources policy and shares the same objectives and values in terms of pedagogy and student support. All students follow courses on management and entrepreneurship. They benefit from all the facilities of the CEFER campus (equipment, labs, rooms, scientific resources). The programme assessment is well-conducted by the Directorate of academic programme and quality assurance. However, the only feedback sent to the programme is when a difficulty is identified. The feedback of the entire assessment would benefit to the Programme Director.

VI. CONCLUSION

The M.Sc. in Analytical Chemistry is entirely in line with the Centre for Food Technology and Research objectives that are dedicated to resolving post-harvest losses, a main food insecurity factor in Sub-Saharan Africa. The main documents required for the evaluation were provided, including the documents about policies (quality assurance, sexual misconduct, scholarships) and the processes for assessments and applications. The visit allowed to confirm these factual elements. The interviews evidenced a good cohesion and understanding between the coordinating head, the staff, the academics, and the students.

Two important elements that were highlighted and explained during the visit are related to the actual context of Nigeria. Firstly, the country's economic situation is difficult, and this has a direct impact on the funding of the programme. Secondly, the safety situation is also complicated, making international mobility and exchanges difficult. It is important to take these two factors into account, and to weigh the evaluations directly affected by these points.

The structure of the programme in Analytical Chemistry and its integration within the CEFTER as well as Benue State University benefit from ten years' significant operating experience. As a result, the entire process of obtaining an M.Sc. is very well explained and accessible to students, from the recruitment process and operation to the dissertation defence and graduation criteria. M.Sc. students' supervision is of high quality by the various supervisors. Moreover, students have access to the various resources they need for their work: research equipment, analytical materials and bibliographic resources. All of these factors show that this programme is operating very satisfactorily, at a high standard. Therefore, the programme is very well established in the university and Nigerian landscape.

However, the university's external outreach is not entirely satisfactory. As explained above, these elements need to be weighed against the economic and security contexts. The Analytical Chemistry programme (including M.Sc. and Ph.D. programmes) of the CEFTER is highly oriented to industrial partners, due to the current crucial challenges on control of post-harvest food losses, a major factor contributing to food insecurity in Sub-Saharan Africa. These partners contribute to the orientations, courses, internships, seminars, events, assessments, and evolutions of the programme, with a much appreciated collaboration from both sides. From the provided documents on a very few number of students (3), the alumni are integrated after graduation in ministries, humanitarian structures or industries, in Africa. The international dimension is limited. Some agreements exist with foreign universities, but the impact on real incoming and outgoing mobility is weak, near non-existent. The participation of the students in international scientific congress could be improved and more systematic. In addition, it is important to point out that some of the department's professors have obtained grants from various organisations, thereby increasing the financial resources of the programme. However, this results in a low number of students receiving grants, which is a negative point. Finally, the follow-up of M.Sc. after graduation is fairly basic, as is the alumni network. It would be interesting to develop this follow-up more systematically, to increase links with the socio-economic world.

STRENGTHS

- Very well-structured programme with a strong collaboration with the national industrial network
- Well integrated and complementary to the programmes at Benue State University and in the CEFTER
- High teaching quality and very efficient students supervision
- Scientific equipment, library access, 24-hour internet access, housing for both male and female students and a new postgraduate complex
- High qualified professors and supervisors receive research grants that benefit to M.Sc. students' research work

WEAKNESSES

- Local attractiveness of the programme
- Still limited research grants and scholarships for the students
- Limited analysis of the follow-up of the graduated
- Integrity and ethics in research teachings not provided to the students
- Only basic procedure for assessment of the teachings

RECOMMENDATIONS

- Develop the attractiveness of the programme at regional and international level to increase the number of students
- Develop an effective international cooperation to promote mobility for M.Sc. students
- Implement tools to increase the access to research grants for students, by using the strong collaboration with the national industrial network and partnership agreements
- Implement a follow-up of the graduated students
- Implement courses on integrity and ethics in research
- Develop the analysis of the teaching assessments

VII. COMMENTS OF THE INSTITUTION

BENUE STATE UNIVERSITY

MAKURDI, NIGERIA

OFFICE OF THE VICE-CHANCELLOR

VICE-CHANCELLOR:
PROF. TOR JOE IORAPUU
BA, MA, Ph.D (Jos) fsonta, KSM

Our Ref:..... BSU/VC/ACA/119

Your Ref:.....



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8th February, 2024
Date:.....

Dear Maria Bonnafous-Boucher
Director of the Europe & international Department
HCERES-France

cc: Zakia Mestari

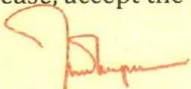
Madam,

Comment on International Accreditation Draft Report (M. Sc. Analytical Chemistry)

Benue State University receives, with much thanks, your detailed draft report of International Accreditation of our M. Sc. Analytical Chemistry programme. Having carefully studied the report, we wish to state that the University accepts the factuality of the contents, with few corrections/observations, as pointed put in our email.

2. The Management of the University, under my leadership, is desirous of internationalization of all programmes of the Institution, hence the request for the accreditation, in first place. We are not unmindful of the impact of positive result of accreditation from a reputable International Organization like yours. Hence, the University wishes to give your Agency the assurance that it shall work, assiduously, to address the gray areas pointed out in the report, as quickly as possible.

Please, accept the esteemed assurances of my highest regards.


Professor Tor Joe Iorapuu
Vice-Chancellor & Head of Institution

The evaluation reports of Hceres
are available online: www.hceres.com

Evaluation of higher education and research institutions

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ACCREDITATION DECISION

M.Sc. Analytical/Environmental Chemistry

Centre for Food Technology and Research
(ACE CEFTER)

Benue State University

Makurdi, Nigeria

March 2024

SCOPE OF THE ACCREDITATION GRANTED BY HCÉRES

HCÉRES has based its evaluation process on a set of objectives that study programmes must pursue to ensure recognised quality within France and Europe. These objectives are divided up into four accreditation criteria.

The Accreditation Commission issues an opinion about the accreditation of the study programme after examining the file. The Hcéres President takes the decision based on the Commission's opinion and the final evaluation report of the programme. This accreditation decision, taken in plenary session, is the result of a collegial and reasoned process.

The decision issued by Hcéres regarding the accreditation of the study programme corresponds to the awarding of a label to the evaluated entity.

This decision is independent of the accreditations carried out by the French State and therefore does not entail recognition in France of the institution or the diplomas delivered by it.

Decision No. EI-2024-10 on the accreditation of the M.Sc. Analytical/Environmental Chemistry, Benue State University, Makurdi, Nigeria

The President of the High Council for the Evaluation of Research and Higher Education,

Considering the Research Code, in particular Articles L. 114-3-1 to L. 114-3-6;

Considering the Decree No. 2021-1536 of 29th November 2021 on the organisation and operation of the High Council for the Evaluation of Research and Higher Education;

Considering the Board's deliberation of 29th September 2022 on the accreditation criteria for international study programmes (except doctorates/PhDs);

Considering the Decision No. 2023-9 of 16th March 2023 on the international accreditation procedure of the High Council for the Evaluation of Research and Higher Education;

Considering the agreement No. DEI_2023_CONV17 – NUC, signed on 14th June 2023 for the evaluation/accreditation of study programmes delivered by Africa Centres of Excellence;

Considering the opinion issued by the Accreditation Commission on 29th February 2024;

Decides:

Article 1

Noting that the M.Sc. Analytical/Environmental Chemistry meets the four accreditation criteria, voted by the Board of the High Council on 29th September 2022, as follows:

ACCREDITATION CRITERION 1 – TEACHING POLICY AND CHARACTERISATION

The policy and strategy of the M.Sc. programme in Analytical Chemistry is totally consistent with the CEFTER objectives, and complementary to other M.Sc. programmes at the CEFTER. The M.Sc. programme is well-structured, with basic and applicative courses and core courses on entrepreneurship. However, no course on integrity and ethics in research is proposed to the students. It is well recognized in the national teaching offer with a specific strong interaction for the students with the industrial partners in the food industry, considering the socio-economic needs. Indeed, their mandatory internship in industry and agriculture is a real strength of this programme.

Furthermore, equipment facilities and efficient interaction with the supervisors allow the students to conduct their research in good conditions. The programme is well known and appreciated by the national academic and industrial partners. They are involved in all stages of the programme, which could further integrate students into the job market. However, the internationalisation of the programme remains limited due to funding constraints and national safety concerns. Stronger links to innovation would benefit the programme.

ACCREDITATION CRITERION 2 – THE PEDAGOGICAL ORGANISATION OF THE STUDY PROGRAMME

The M.Sc. programme of the CEFTER is well-focused and relevant in terms of topics regarding post-harvesting, a key question in this area of Nigeria. The courses are taught by experienced staff, some of them presenting a previous international experience that benefits to the programme. The students are followed during their whole training by one to two supervisors. The programme is linked to other universities (Nigerian, African and mostly European universities) and well-integrated into a network of industrial partners. This excellent environment provides students with high quality placements. However, due to external constraints (economic and security issues), incoming mobility is limited. The increase in the number of students would benefit this high-quality education.

ACCREDITATION CRITERION 3 – ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE STUDY PROGRAMME

Although the programme is attractive to students, its attractiveness, performance and relevance are only rudimentarily tracked, as only basic data on student success and integration are provided. The analysis

and impact of evaluations are not clearly defined for the programme's development and should be implemented.

ACCREDITATION CRITERION 4 – MANAGEMENT AND CONTINUOUS IMPROVEMENT OF THE ACADEMIC PROGRAMME

The M.Sc. programme is supported by the institution's human resources policy and shares the same objectives and values in terms of pedagogy and student support. All students follow courses on management and entrepreneurship. They benefit from all the facilities of the CEFTER campus (equipment, labs, rooms, scientific resources). The programme assessment is well-conducted by the Directorate of academic programme and quality assurance. However, the only feedback sent to the programme is when a difficulty is identified. The feedback of the entire assessment would benefit to the Programme Director.

Article 2

The M.Sc. Analytical/Environmental Chemistry, Benue State University, Makurdi, Nigeria, is accredited for a period of 3 years, which may be extended for two years, subject to a follow-up that may include an on-site visit.

Article 3

The decision is accompanied by the following recommendations and comments:

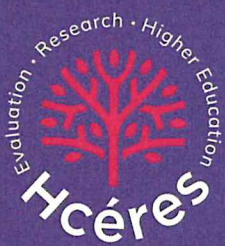
- make efforts to systematise and formalise internal quality assurance indicators, facilitating informed management and ensuring the long-term maintenance of programme quality;
- although other courses include elements of integrity and ethics in research, it would be advantageous to introduce a core course specifically addressing these issues;
- implement tools aimed at improving students' access to research grants by leveraging the robust collaboration with the national industrial network and existing partnership agreements.

Article 4

This decision will be published on the Hcéres website.

Paris, 15th March 2024.

The acting President
signed
Stéphane Le Bouler



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