

Decision No. EI-2024-32 on the accreditation of the M.Sc. Mechanical Engineering, delivered by Ahmadu Bello University, Zaria, 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 Board's deliberation of 29th September 2022 on the accreditation criteria for courses abroad (excluding doctoral/PhD programmes);

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 DEI_2023_CONV17 of 14th June 2023 for the evaluation/accreditation of fourteen training courses, delivered by six Centres of Excellence in Nigeria;

Considering the opinion issued by the Accreditation Commission on 18th June 2024;

Decides:

Article 1

Noting that the M.Sc. Mechanical Engineering delivered by Ahmadu Bello University in Nigeria 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 programme of M.Sc. in Mechanical Engineering is perfectly in line with the University strategy as well as the socioeconomic needs. Indeed, this M.Sc. is perfectly integrated and complementary to other programmes of the Faculty of Engineering of the University. The programme addresses the challenges associated with Production, Mechatronics, and Renewable Energy in a comprehensive and engaging manner.

The programme proposes longstanding partnerships with research and socioeconomic actors at both the local and the national levels. The required facilities (equipment, library, software) for research are available. The environment is favourable for the students to develop their one-year research project. More national laboratories complement their research needs, as for material characterisation purpose for instance (Shell Office Lab. or Umaru Musa Yaradua University Central Lab).

These students can pursue a Ph.D. within the same Department. It would be interesting to add core courses on ethics and research integrity. There are well-established links with the socio-economic partners through several effective partnerships with public institutions and private companies, which present a real added value to the programme. MoUs have been signed at the University level, allowing outgoing mobility with foreign universities. These international exchanges could be improved in particular regarding incoming foreign students.

ACCREDITATION CRITERION 2: THE PEDAGOGICAL ORGANISATION OF THE STUDY PROGRAMME

The curriculum of the M.Sc. programme is consistent and set out in a comprehensive manner. Students attend core and electives courses required in Production, Mechatronics and Energy Studies, based on dedicated and well-organised courses. Interdisciplinarity and multidisciplinary are proposed through courses available in other Departments of the University. The expected knowledge and skills are well-defined and help to address society's main challenges. The teaching methods are diversified even though online courses are rare.

A one-month internship is mandatory for ACENPEE students' programme, which is insufficient even though they have already completed a six-month internship during the B.Eng. programme. A research project running for two years mixing practical and theoretical works is proposed. Formal lectures supported by laboratory work, studio practices, seminars and case studies constitute the framework of teaching in the Department. Partnerships with foreign universities have been signed and have benefited to two students for an outgoing mobility but international opportunities are mainly available to students thanks

to Alumni through social networks, even though a global approach is given by the Policy Assurance Committee at the University level. Even if partially addressed, additional skills relevant to their job-market integration might be more formally proposed to the M.Sc. students. The acquisition of language skills required for a good job-market preparation and integration is implicit within the programme and not clearly proposed.

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

The attractiveness of the programme is monitored. The number of enrolled students is adequate compared to the hosting capabilities. The monitoring process is not detailed. However, the number of foreigners hosted in the programme is increasing. A survey as a tool for assessing the M.Sc. programme exists at the Department level to comply with the Policy of the University and results should be sent to the Quality Assurance Committee which in turn, gives recommendations to the Head of Department. The job-market integration monitoring highlights a good integration of the graduates mainly in the economic sector or in Ph.D. programmes, but the number of unemployed is high. Modern social media are also used by the programme to stay in contact with graduates.

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

The contributors to the programme have a very good level of expertise covering the full scope of the M.Sc. in Mechanical Engineering programme. The number of teaching staff, technical staff and administrative staff is adequate and satisfying. The programme organisation is clearly defined and efficient, and the pedagogical resources available at the department, the faculty or the university are of a high level. It is important to indicate that a significant financial contribution would make it possible to renew certain equipment for the benefit of students, as well as providing access to costly simulation software licences.

The different procedures for recruitment and examination are well detailed and explained in an extensive way in the PG Handbook. Continuous assessment of the courses is performed, this process is systematic, and the feedback is taken into account. However, no information is provided in terms of the number of responses received or the tool used to perform this assessment. The integration of newly recruited staff is efficient, and a mentoring strategy is organised.

Article 2

The M.Sc. Mechanical Engineering delivered by Ahmadu Bello University in Nigeria, is accredited for a period of five years from the date of this decision.

Article 3

The decision is accompanied by the following recommendations and comments:

- Monitor the success rate closely to understand better a high number of students are not graduating. Increased tutoring and the formation of levels groups can be beneficial for students. For students who currently lack financial support, providing grants or research grants would be highly valuable.
- Better prepare students for their job-market integration. In addition to informal current practices, dedicated course can be provided for a better skill language, writing CV and covering letter and preparing the interviews. An annual monitoring is a good way to check whether the actions taken are sufficient or not.
- Labs are well-equipped; however, there is a need to renew and complement them with up-to-date equipment that corresponds to the latest standards.
- The outgoing mobility can be very useful for second year students and new staff members. By increasing the numbers of international partnerships, it would be possible to increase the outgoing mobility. The possibility offered should be publicised.
- Involve external contributors currently who are working in partnership to participate in bodies within the Department. They can provide fair yet objective view on the actual Curriculum and propose



complements to better match with the socio-economic needs. The same approach could also be beneficially extended to students.

Article 4

This decision will be published on the Hcéres website.

Paris, 27th June 2024.

The acting President

signed

Stéphane Le Bouler