Europe and International Department

EVALUATION AND ACCREDITATION DOCUMENTS

Ph.D. Petroleum and Gas Engineering

Centre for Oilfield Chemical Research
University of Port-Harcourt, Port-Harcourt,

Nigeria,

September 2019

Rapport publié le 24/11/2019

Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur

CONTENTS

International evaluation and accreditation

EVALUATION REPORT

Ph.D. Petroleum and Gas Engineering

Centre for Oilfield Chemical Research
University of Port-Harcourt, Port-Harcourt, Nigeria

MAY - 2019

High Council for evaluation of research and higher education

The Africa Center of Excellence in Oilfield Chemical Research (ACE-CEFOR) of the University of Port-Harcourt has mandated the Hcéres to perform the evaluation of its Petroleum and Gas Engineering master programme. The evaluation is based on the "External Evaluation Standards" of foreign study programmes, adopted by the Hcéres Board on October 4th, 2016. These standards are available on the Hcéres website (hceres.fr).

For the Hcéres[1] :

Michel Cosnard, President

On behalf of the experts committee[2] :

Carole Molina Jouve, President of the committee

In accordance with the decree n°2014-1365, November 14th, 2014,

[1] LThe 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 »(article8, alinéa 5)

[2] The evaluation reports "sont signés par le président du comité". (Article 11, alinéa 2) – « are signed by the president of the committee » (article11, alinea 2)

CONTENTS

I. NATIONAL CONTEXT AND INSTITUTION IDENTITY SHEET

INSTITUTION

1. University/institution: University of Port-Harcourt (UniPort)
2. Component, faculty or department concerned: Africa Center of Excellence in Oilfield Chemical Research (ACE-CEFOR). Department of Petroleum and Gas Engineering
3. Programme's title: PhD in Petroleum/Gas Engineering
4. Training/speciality: Two options are proposed by the department for a PhD level program:
    5. Petroleum Engineering
    6. Gas Engineering
7. Year of creation and context: The University of Port Harcourt has been founded by the federal government in 1975 as a college of the University of Lagos. It gained the University status in 1977. The faculty of engineering started in 1979 and Petroleum engineering was one of the first proposed programmes. It has been upgraded to Petroleum and Gas Engineering Department in 1999, in order to teach and conduct research in these fields. The ACE-CEFOR has been established in 2014, as a Center of Excellence in Petroleum Engineering granted by the World Bank.
8. Site(s) where the programme is taught (Town and campus): Port-Harcourt, Rivers state, Nigeria
9. Programme director:
    10. Surname, first name: Professor Ogbonna F Joel
    11. Profession and grad: PhD Chemical/Petro-Chemical Engineering (2003, UST)

    Main subject taught: Teaching area: Drilling and Environmental Engineering

    12.

METHODS AND RESULTS OF THE PREVIOUS ACCREDITATION(S)

The National Universities Commission (NUC) conducts accreditation exercises for the study program every 5 years (the last one in 2017 fully accredited the PhD programme). The study programme has also received members of the ABET[1] accreditation committee for the purpose of conducting Gap analysis.

In order to ensure program quality maintenance and enhancement, an Advisory Board ensures that program quality is sustained and improved.

HUMAN AND MATERIAL RESOURCES DEDICATED TO THE PROGRAMME

1. Human resources

They are 18 faculty members devoting between 40 and 60% of time to the program. They distribute their activity between 40% in teaching for the professors till 60% for the lecturers, the remaining time being focused on research and administrative management. 18 technical staff and 17 administrative staff support teaching staff and students.

[1] ABET is an international nonprofit, non-governmental agency that accredits programs in applied and natural science, computing, engineering and engineering technology. It provides assurance that a college or university program meets the quality standards of the profession for which that program prepares graduates.

2. Material resources

The Department has four inner main laboratories, a Computational (Research) laboratory and shares laboratory facilities with the institute of petroleum studies (IPS), Chemical Engineering Department (Compositional Analysis) and Civil/Environmental Engineering (Fluid Mechanics), Mechanical Engineering (Thermofluids) as well as other collaborating industry partners laboratories. The laboratories resident in the departmental building are Reservoir Engineering**,** Production Operations**,** Well Engineering**,** Gas Technology. The laboratories are equipped with university funds, substantial donations from Petroleum Technology Development Fund (PTDF), Education Tax Fund (ETF) and demonstration facilities from various Service Companies, such as Schlumberger, BJ Services, Baroid. The Research Laboratory consists of computers and software for advanced petroleum engineering work. Research software in department include:- PETROCALC 3, 6,7,8; PVT/Reservoir Sim, Saphir Advanced, CSNG Optimum Casing String Design, Z-factor for Windows, etc.

STUDENT POPULATION: EVOLUTION AND TYPOLOGY OVER THE LAST 4 YEARS

SESSION	ENROLMENT		
	FEMALE	MALE	TOTAL
2013 - 2014	6	16	22
2014 - 2015	2	3	5
2015- 2016	1	2	3
2016 - 2017	7	22	29
2017 - 2018	-	1	1
2018 - 2019	5	19	24

II. EVALUATION PROCEDURE

COMPOSITION OF THE EXPERTS PANEL

President:
Pierre HALDENWANG, Emeritus Professor at Aix-Marseille Université (Spéciality : physics, mechanical engineering.

Expert members :

1. Catherine XUEREB, Research Director CNRS, (Spéciality : Chemical engineering), laboratoire de génie chimique, Institut National Polytechnique de Toulouse.

2. Thibaud LECOMPTE, Assistant Professor, Bretagne Sud University, « habilité à diriger des recherches » (capacity to supervise PhD research) (Spécialities : Material mechanic, biosource materials, civil engineering).

3. Anass NAGIH, Professor, Lorraine University (Spéciality : computer sciences).

4. Valentin LE BOEUF, PhD Student. Ecole Normale Supérieure Paris Saclay. (Spéciality : electrical engineering).

The Hcéres institution was represented by: Pr. Pierre COURTELLEMONT, Science Advisor.

ON-SITE VISIT DESCRIPTION

5. Date of the visit: May the 23rd, 2019.

6. Organization of the visit: the visit was made the 23rd of May, 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.

7. Cooperation of study programme and institution to be accredited: perfect cooperation by all stakeholders, with the support of NUC team.

8. People met:
   Joel Ogbonna, Centre leader
   Ubani C E, Head of Department
   V J Aimikhe, Assistant Director
   Amiebibama Joseph, Assistant Director,
   Oriji A B, Assistant Director

   Teachers by videoconferencing:
   Franklin O Chukwuna, Dean
   Anthonia A Okenenguro,
   Gideon O Abu,
   Francis Fusier,
   Joseph A Ajienka,
   Obiajulu C Ekeh
   Wachuku Prince
   Ubong Ikpaisong
   Lessor ikeh
   Ani Goodness O
   Dulu Appah,
   Odutola Toyin
   Eneka Okafor
   Ijeonma Irene
   John Lander Ichenwo
   Boma S Kinigoma
   Uche Osokogwu

   Partners and alumni by videoconferencing:
   Grace C Akujobi Emetuche (NPSC PHAREA)
   Ojirika Eduwin C
   Osihro Christopher (POCEMA)
   Christian Isaac (TOTAL)

   Students by videoconferencing:
   Onyemaechi Victor C, Eyankware Oghenegare E, Aguru Sampson T, Ejiogu Ndubuisi Robert, Inokone Sunday
   Okoye Amara U, Okwonna Obumnene Onyeka, Otangri Inemugha, Anyamoru Brillance Onyimyechi, Ndubuisi Elisabeth C (Technologist II), Nwosi-Anele Adaobi Stephenie, Adali Francis Eromosole, Dike Humphrey W, Anaece John Vitus, Odoi Noble Ukela, Elechi Virtue Urenwo, Obuebite Amalate Ann Jonathan, Eme Charles, Ojirika Edwin Chibozie, Kwasi Opoku Boadu, Akaho Augustine Azabaze, James M Muwyithya, Samuel S Mofunlewi, Kamayou Monkam E Vianney, Dumka Esaznwi, Kouadio Koffi Eugene, Botwe Takyi, Amadou Hassane, Ikeonyie Kelechi, Dike Precious E

   Staff:
   Uwajingba Ebineppre C, Assistant Chief Tech
   Fulalo Lucky Donatus, senior technologist
   Suwari Caroline P, senior technologist
   Amukwo James Bide, senior technologist
   Ojikpo Felix, technologist II
   Samuel Isaiah, technologist II
   China Kelvin Esor, technologist I
   Ovwromoh Blessing C, Technologist II
   Akpan Kufre Daniel, laboratory Assistant
   Loveday Tonwee, laboratory Assistant
   Didia Chisa Sandra, laboratory Assistant
   Epuzoaju Petronilla Lfeoma
   Nwauzi Evelyn N, Higher executive Officer
   Akiene Sarah Clement, Higher executive Officer
   Ihuoma Amadi, Higher executive Officer

Owhanda Blessing D, Higher executive Officer
Patience Ebulu, Caretaker
Ashara Leticia, Caretaker/cleaner
Onisunil Priscilla
Love Woko, Caretaker
Deborah Clinton Chimele, laboratory Assistant

9. Any problems: no
10. Other: nothing.

III. PRESENTATION OF THE STUDY PROGRAMME

1 – PRESENTATION OF THE STUDY PROGRAMME

The PhD in Petroleum and Gas Engineering is attached to the department of petroleum and gas engineering, also offering Post Graduate Diploma Programme (one-year diploma) and Master Programmes.

The aspiration of the Federal Government of Nigeria is to increase the local capacity to participate to the development of the oil and gas industry[2]. Collaborative research efforts between universities and industry can provide a platform of quality training and regional applied research networks to address regional challenges and promote specialization. The UniPort benefits of the World Bank grant to establish a Center of Excellence focused on Oilfield Chemical Research. It is one of the 22 beneficiary Universities in Africa.

The objective of the PhD Programme in Petroleum studies and related disciplines is to commit intelligent and talented young men and women within the African region to solving the diverse problemes in the oil and gas industry particularly in the areas of Oil Field Chemicals/Biofuels, Petroleum and Environmental Studies.

The duration of the programme is at minimum 3 years full-time studies or 4 years part-time studies[3]. It consists of the following:
1. Three Centre taught courses
2. Three departmental courses/seminars in their specialized areas
3. Extensive research leading to publications in reputable journals
4. Participation in seminars, workshops and conferences

The options available in the Petroleum and Gas Engineering program include (i) Petroleum Engineering and (ii) Gas Engineering[4].

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

In order to evaluate the program, Hceres asked the institution to provide a self-assessment report. In fact, the document supplied by the Institution staff was a factual document presenting the training programme, without any real self-assessment analysis, which is supposed to bring to light Strengths, Weaknesses, Opportunities and Threats (SWOT analysis). Unfortunately, the delivered document was essentially composed of elements previously written for other purposes (Handbook, brochures, website ...).

IV. EVALUATION REPORT

[2] General Regulations for World Bank ACE-CEFOR Ph. D. Programme leaflet
[3] SSR p.24
[4] PhD SSR

AREA 1 – THE POSITIONING OF THE DOCTORATE

The positioning of the doctorate is totally relevant, and consistent with its academic and industrial environment, since Petroleum is a core of the local economical strengths, and the academic skills are supported and granted by the World Bank.

The programme's features and objectives are defined in the different documents available for students.

Through this study programme, UniPort intends to prepare engineers for petroleum and gas industry or research able to solve problems with due consideration to economic factors. "The petroleum and gas engineer must be thoroughly familiar with the basic economic relationships which involve investment, operating expenses, taxation and profitability analysis. Equally important is the ability of the petroleum and gas engineer to work harmoniously with his or her associates. In oil and gas development, the petroleum and gas engineer supervise the drilling of wells and their completion, if oil or gas is discovered. In the recovery of crude oil and natural gas, the petroleum and gas engineers aim at:

1. Controlling and efficiently using the natural energy in an underground reservoir
2. Providing additional energy by injecting fluids into the reservoir;
3. Increasing the flow capacity of the reservoir or the petroleum in it through sound engineering techniques;
4. Reducing the cost of oil and gas recovery, production and transportation, and
5. Minimizing waste and protecting the environment"[5]

The name of the PhD is not totally clear, nor the specialties, displayed as presented in the introduction of this report according to what is written in the SSR (i)petroleum engineering ; ii) gas engineering), or presented as a PhD in Petroleum Engineering with the same 5 options as the master on the website (www.dailyschoolnews.com.ng/uniport-postgraduate-admission-form/), or as a "PhD Programme in Petroleum studies and related disciplines"[6].

Student Outcomes (SOs) and Program Educational Objectives (PEOs) are specified[7].
PEOs are the following:

Graduates of Petroleum & Gas Engineering should:

1. Be employable and able to practice Petroleum Engineering as qualified engineers, who are ready to solve industry problems to enhance hydrocarbon exploration and exploitation as well as provide requisite skills to boost service operations in the oil and gas industry.
2. Be able to pursue lifelong learning and demonstrate successful career growth in Petroleum Engineering through post graduate education and active participation in professional activities.
3. Have potentials to become entrepreneurs, who are critical and independent thinkers, exhibiting good leadership skills and playing vital roles that contribute to the welfare of society and the environment.

SOs are as follows:

1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply both analysis and synthesis in the engineering design process, resulting in designs that meet desired needs.
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
6. An ability to recognize the ongoing need for additional knowledge and locate, evaluate, integrate, and apply this knowledge appropriately.
7. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

[5] PhD SSR
[6] General regulations for Ph.D Programme booklet, p.18
[7] PhD SSR

Unfortunately, the results and skills are expected in the same way for all degrees awarded to the program. There is no mention of the specific qualities and skills expected after the PhD degree, in the same way that there is no mention of the types of jobs that can be offered by companies specifically to a doctor. It is probably due to the fact that PhD Graduates of the department of Petroleum and Gas Engineering are mostly devoted to become lecturers in different Nigerian Universities. Increasing demand for access to higher education level in Universities and the proportion of young people in the population makes these opportunities in universities really important.

The positioning of the doctorate is totally relevant, and consistent with its academic and industrial environment, since Petroleum is a core of the local economical strengths, and the academic skills are supported and granted by the World Bank.

The PhD student interacts with the economic environment, firstly because of the mode of definition of her/his subject. During the first semester, he/she works primarily with a company that allows to define the future PhD subject, after approval by the academic board. Moreover, an industrial coach oversees the training path and supervises the work all along the program.

The international links with foreign institutions are not clearly pointed out for the PhD Programme, and the students would expect more opportunities to discover foreign institutions and standards.

AREA 2 – ORGANIZATION AND MANAGEMENT OF THE DOCTORATE

A program with clearly stated expectations, and benefitting from well-equipped laboratories

The academic staff is constituted of 18 faculty members. They distribute their activity between 40% in teaching (all degrees of the whole programme) for the professors till 60% for the lecturers, the remaining time being focused on research and administrative management
. 15 technical staff and 17 administrative staff support teaching staff and students.

After the first step for defining the PhD project, the studies are carried out in the UniPort laboratories, well equipped thanks to the World Bank grants. The Department has four inner main laboratories, a Computational (Research) laboratory and shares laboratory facilities with the institute of petroleum studies (IPS), Chemical Engineering Department (Compositional Analysis) and Civil/Environmental Engineering (Fluid Mechanics), Mechanical Engineering (Thermofluids) as well as other collaborating industry partners laboratories. The laboratories resident in the departmental building are Reservoir Engineering**,** Production Operations**,** Well Engineering**,** Gas Technology. The laboratories are equipped with university funds, substantial donations from Petroleum Technology Development Fund (PTDF), Education Tax Fund (ETF) and demonstration facilities from various Service Companies, such as Schlumberger, BJ Services, Baroid. The Research Laboratory consists of computers and software for advanced petroleum engineering work. Research software in department include:- PETROCALC 3, 6,7,8; PVT/Reservoir Sim, Saphir Advanced, CSNG Optimum Casing String Design, Z-factor for Windows, etc.

PhD students also benefit from a library, but the access to digital document resources is limited, and the committee would recommend to reinforce the availability of high level international publications, for example through electronic subscriptions.

A constituted board has to ensure that program quality is sustained and improved. It is composed of Professors and Lecturers with PhDs, two graduates of the program that are currently practicing in the Industry, two members of the university administration. This advisory board is saddled with the following responsibilities[8]:

1. Develop evaluation forms for monitoring the performance of teachers in class/laboratories
2. Assess the students' project work
3. Ensure quality during students' internships
4. Monitor the performance of teachers in Lecture classes /laboratories.
5. Evaluate the quality of questions and their solutions to ensure that minimum standards are met.
6. Periodically evaluate lecture materials to ensure that course content is adequately covered.
7. Ensure that lecturers clearly define the course objectives and learning outcomes for each course being taught.

[8] PhD SSR

8. Establish a unified assessment /evaluation strategy.
9. Ensure that each lecturer clearly defines his/her evaluation/ assessment method(s) in the lecture notes at the onset of every course lecture.
10. Provide adequate information and assistance for students' internships.

A doctoral student representative is chosen by the students. Without attending official board meetings, he/she is nevertheless in capacity to interact with the board or administrative staff to raise questions or problems.

The policy for recruiting the Ph.D students is described[9]. For admission requirements, it can be read that candidates must have successfully completed the relevant M. Sc. degree of UniPort with a minimum CGPA of 4.0, as well as minimum of CGPA of 3.0 in their first degree, or equivalent qualifications from other Universities, but without specifying what is a "relevant" M.Sc. degree. Qualified industry staff with the same "relevant" M.Sc degree are allowed to apply. Shortlisted candidates are then invited for interview and presentation of research proposals.

There are possibilities of funding doctoral students through the World Bank programme. About 50% benefit from this sponsorship. Others are encouraged to seek from other agencies and employers, but often remain self-sponsored by their families. Moreover, non-refundable acceptance fees and high tuition fees (from about $3,750 for self-sponsored nationals up to $20,000 for sponsored non-nationals) may limit the attractiveness of the Programme.

A standard schedule for the Ph.D Programme is presented, which specifies the main stages of the program, both from the administrative point of view (registration, assignment of supervisors, development and follow-up of a road map ...) scientific (identification of the subject, bibliographic review, stages installation of a pilot and estimation of the associated costs, tools necessary for modeling ...) and institutional (points of presentation of the results, publication of articles, filling of patent, handing over of the manuscript, organization of the thesis defense..). Despite the fact that each thesis is unique and required adapted steps, this kind of schedule presents the advantage to describe rather well the content and requirements for obtaining a PhD level.

AREA 3 – SUPERVISION AND TRAINING FOR DOCTORAL STUDENTS

A program that offers students a strong supervision, disciplinary and methodological courses, and clearly based on industrial issues

Every student is attached to 2 faculties for academic monitoring, counseling, mentorship and research development. They are chosen locally or from international partner institutions. Interactions between students and industry players are effective in order to inform the students about global practices and novel research areas[10]. The industry stakeholders are identified from the first step of definition of the PhD project. It has to be noticed that the research areas are essentially in applied research, since they are inspired by industry.

In the standard schedule for the Ph.D Programme, a regular contact on progress with supervisors is noted at each step.

Rules and criteria for Graduation are explained in the Handbook, where it can be found that the PhD consists of coursework, thesis and a minimum of 21 semester credits or its equivalent.

The duration of the programme is at minimum 3 years full-time studies or 4 years part-time studies. It consists of the following:
11. Three Centre taught courses
12. Three departmental courses/seminars in their specialized areas
13. Extensive research leading to publications in reputable journals
14. Participation in seminars, workshops and conferences

The academic programme includes taught courses in modular basis. They propose an interesting module on general research methods (thinking skills for conduct of research ; principles of scientific research and reporting; research as a multidisciplinary approach; basic statistics; antiplagiarism evaluation and patenting), but also a module on technical report writing and presentation skills, another one on entrepreneurship, one on environmental management and pollution control, and others dealing with general overviews of the industrial

[9] "General regulations for Ph.D Programme" leaflet
[10] SSR

fields concerned. Students may also be required to take some courses from the M.Sc. programme modules to make up for identified gaps.

The academic Ph.D. programme also includes participation in seminars, workshops and conference. But they are essentially local or national, and students would appreciate to benefit from more numerous opportunities to attend international events.

The degree is awarded primarily on the basis of the research conducted by the student. The following conditions apply:

15. On provisional admission, the candidate must obtain an average of B on 9 credits taught course work to continue the PhD programme. Some are compulsory and two others are in the area of specialization. Some can be required by the supervisors or by the Department.
16. Candidates are expected during the first year to write a Departmental qualifying examination based on the course work in Petroleum Engineering, with a minimum grade of C.
17. Candidates must present a research proposal not later than 3 months after the qualifying examination
18. Candidates have to participate in advance seminar and should present at least 3 seminar papers.
19. A PhD candidate is expected to be part of the Teaching faculty of the department during her/his studies, and to assist in grading and taking tutorials.
20. To qualify for PhD, 3 conference/journal papers in reputable academic media should be published.
21. On provisional completion of the research work, the candidate will be required to present a thesis based on the outcome of the research, to a) the Departmental Graduate Studies Committee, b) Faculty Graduate Board, c) Graduate College, d) orally before a board of examiners set up in accordance with the Graduate College regulations.

The Handbook does not specify which are the Graduate College regulations to constitute this final board of examiners. Elsewhere[11], it is only referred to an external examiner. The criteria to consider academic media as reputable are also to be specified.

AREA 4 – INTEGRATION OF DOCTORS INTO THE JOB MARKET

The doctors are easily integrated into the job market, essentially as lecturers in Nigerian universities. A systematic PhD monitoring tool remains to be developed.

In Nigeria, the integration of doctors into the job market is easy. Most positions are offered by Universities to PhD Graduates, due to an increasing national demand from the youth to access higher education, and thus a strong need of faculties in the Universities. As for the ones who prefer to work for industry, the PhD organization which basically associates numerous industrial partners facilitates this option.

Numerous examples of Ph.D. graduates working in key international industries and universities, mainly in the oil sector, are presented by UniPort (leaflets, oral presentation during the visit). However, a systematic PhD employment monitoring seems to be pending for development. This follow-up tool could include type, profile, remuneration, geographical location and career development in jobs held by doctor. This would give back precious information to the candidates and check if all the expectations from the economic (and academic) sectors are satisfied by the graduation.

V. CONCLUSION

The Experts Committee regrets that the visit to the CEFOR's site at Uniport University was impossible. Even though the meetings in Abuja with our colleagues, leaders of the Ph.D. programmes, were frank and fruitful, the physical presence on site is always rewarding. The Committee's members nevertheless thank their Nigerian colleagues for the overall quality of these meetings and for their readiness to provide them with additional information.

In a general manner, the Committee found the CEFOR Ph.D. programme in full adequation with to the local offers from the job market. Even if industry is not the preferred outlet for the doctors, the programme is nevertheless in line with the Nigerian industrial demand.

[11] SSR

The overall programme presents several important strengths, as the excellent teaching staff and the infrastructures provided by the Department of Petroleum and Gas Engineering, as well as the consequent support from companies,

The Committee's members were nonetheless amazed that these positive points do not result in a constant attractivity of the programme; as a matter of fact, the enrolment remains quite irregular per year. No analysis on that feature was supplied (as a matter of fact, the self-evaluation procedure has not been carried out by the CEFOR staff).

Undoubtedly, a better (and homogeneous) communication -first of all on the web site- would help to stabilize the rather chaotic student in-take. A more systematic politics regarding the scholarships would lead the programme in the same way.

To help the programme management, several tools (essentially developing certain databases) should be strengthened. This action would also help the communication towards the candidates, for instance by gathering alumni testimonies.

As a final consideration, the Committee's members want to commend their Nigerian colleagues who have already done numerous efforts to develop a high-education training of international quality.

STRENGTHS

1. A PhD totally in line with the academic and industrial needs of the country, especially the region of Port-Harcourt
2. A good quality of academic supervision, enriched by the systematic supervision of an industrial partner
3. A PhD fully consistent with the Master's programmes.

WEAKNESSES

1. Absence of monitoring tools
2. Irregularity of enrollment per year
3. Part of doctoral students is self-financed
4. Electronic subscriptions to scientific journals to develop
5. Title of doctorate, including specialties, to specify and to homogenize in all different documents and information tools

RECOMMENDATIONS

The PhD programme in Petroleum/Gas Engineering is displayed in various documents; its title and its specialties differ from one other source of information; some homogenization should be undertaken. In a general manner, the Department's web site should be more precise about its different offers in terms of training. A better description of the doctor role in industry should also be provided.

Databases concerning the student follow-up are not sufficiently consolidated, as well as in terms of origin, specialization, and pathway after graduation.

Some financial efforts regarding the electronic scientific documentation are seemingly claimed by the students. Other financial efforts could compensate the absence of scholarships.

VI. COMMENTS OF THE INSTITUTION

AFRICA CENTRE OF EXCELLENCE

CENTRE FOR OILFIELD CHEMICALS RESEARCH

ACE-CEFOR
UNIPORT

The World Bank

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E-mail:
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East West Road,
Choba, P.M. B. 2
Uniport Post Office
Delta Park

August 23, 2019

Prof. François PERNOT
Directeur/Director
Département Europe et International
Europe and International Department

Dear Sir,

FEEDBACK ON THE EVALUATION REPORT ON THE PhD PETROLEUM AND GAS ENGINEERING PROGRAMME

COMMENTS OF THE INSTITUTION

We thank Hceres for their due diligence in the accréditation exercise.
Sumarised below are our comments and way forward on the issues highlighted as weaknesses and in the recommendation.

1. ABSENCE OF MONITORING TOOLS

We have a robust monitoring system and is a requirement by the world bank for ACE-CEFOR. We have record for the hiring progression. We have a template for monitoring and evaluation tool which is part of our R & D Key Performance Indicators. The data that are captured include.
PhD /year of graduation
Intellectual Property (IP) Disclosures
Patents (Filed and received) : National and international patents.
Publications
Products (such As Software applications, Oilfield Chemicals etc)
Startups
Licenses
Royalties
Participation in Exhibitions and Technology Showcase etc
Employments

Major milestones of CEFOR among others include graduation of 37 of the 1st set of PhD students admitted in 2014, out of which over 90% of them are gainfully employed as at date. Many have been offered teaching appointments in Universities. Moreover, Over 200 papers arising from students research work have been published in reputable journals.
In the Annual Conference of the SPE Nigeria Council, this university had the highest publications and presentations followed by Shell Petroleum Development Company. This has been the case for the past 5 years.
However, we will update our database and website to capture these.

2. IRREGULARITY OF ENROLLMENT PER YEAR

The difference in the student enrolment as seen in this programme is a reflection of the reality of self-sponsorship of private students and the world bank sponsorship. Without sponsorship students prefer to go to the industry. The years that the students' enrolment were low was because there was no world bank admission with sponsorship. However, it is worthy to note that this year, ACE-CEFOR won another grant from PASET to sponsor some regional PhD students every year for Petroleum and Gas Engineering/Energy Economics. This and other students recruitment efforts adopted by ACE-CEFOR will address the irregularity of the enrollment.

3. PART OF DOCTORAL STUDENTS IS SELF-FINANCED

Yes, some of the students that did not benefit from the world bank tuition free sponsorship are self-financed with partial support. We are optimistic that as we win more grants, we will be in a position to offer scholarship to all.

4. ELECTRONIC SUBSCRIPTIONS TO SCIENTIFIC JOURNALS TO DEVELOP

There are remarkable landmark achievements of the Centre, we have good learning environment and learning aids : Among which include :

- Language lab
- E-library with full subscription to scientific journals and full access such SPE One-Petro for on the platform of the international Society of Petroleum Engineers (SPE) ; e-journals on Scopus etc
- Smart Class/Conference rooms
- Video conferencing facilities
- Full internet facilities

5. TITLE OF DOCTORATE, INCLUDING SPECIALITIES, TO SPECIFY AND TO HOMOGENIZE IN ALL DIFFERENT DOCUMENTS AND INFORMATION TOOLS

The Petroleum and Gas Engineering Programme has the following specialisations which are usually indicated in the Transcripts and reflected in the Thesis. The specialisations are published in the School of Graduate studies Brochure

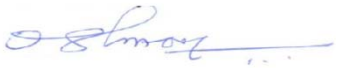
1. Reservoir Engineering & Management
2. Petroleum Production Engineering
3. Drilling & Well Engineering

4. Petroleum Economics & Risk Analysis
5. Natural Gas Engineering & Utilisation (unique to this university)

There are also common courses such as Advances in Petroleum Engineering
Research as Enterprise/Research methods
Field Development Planning (FDP)
However, we will reflect and update the brochure to capture all the areas of specialization as applicable.

No doubt as we implement the protocols as recommended, the programme will become an outstanding regional centre of excellence for oil and gas human capital development in Africa.

Yours sincerely,



Professor Ogbonna F. Joel
Centre Leader, ACE-CEFOR

International evaluation and accreditation

ACCREDITATION DECISION

Ph.D. programme in Petroleum/Gas Engineering

Centre for Oilfield Chemical Research
University of Port-Harcourt, Port-Harcourt, Nigeria

September 2019

SCOPE OF THE ACCREDITATION GRANTED BY HCÉRES

Hcéres has built its evaluation process based on a set of objectives that Higher Education Institution must pursue ton ensure recognised quality within France and Europe. These objectives are divided up into six fields among which are the accreditation criteria.

As for the « External Evaluation Standards », the accreditation criteria have been specifically designed for foreign HEI. The accreditation criteria were adopted by the Board on June 2016 and are available on the Hcéres website (hceres.fr).

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

The accreditation decision issued by Hcéres shall not grant any rights watsoever, wether in France or abroad. The decision to accredit an institution confers an accreditation label and does not infer recognition in France of the qualifications issued by the accredited institution. The Hcéres accreditation process therefore has no impact on the qualifications recognition process in France.

FULFILLMENT OF THE ACCREDITATION CRITERIA

AREA 1: THE POSITIONING OF THE DOCTORATE

Accreditation criterion

The positioning, the content and the objectives of the doctorate are clearly defined. Its interactions with the stakeholders (lead institution(s), foreign partners, socio-economic environment) are formally set out and effective. Its links with the research units and the institution's scientific policy are effective.

Criterion assessment

The positioning of the doctorate is totally relevant, and consistent with its academic and industrial environment, since Petroleum is a core of the local economical strengths, and the academic skills are supported and granted by the World Bank.

AREA 2: ORGANIZATION AND MANAGEMENT OF THE DOCTORATE

Accreditation criterion

The doctorate's organisation and management are clearly defined and rely on material and human resources adapted to the requirements of programmes at ISCED level 8. Internal quality assurance mechanisms are in place and effectively used in order to improve continuously the doctorate. The doctoral students recruiting is formally set out, their funding is fair and sustainable.

Criterion assessment

A program with clearly stated expectations, and benefitting from well-equipped laboratories

AREA 3: SUPERVISION AND TRAINING FOR DOCTORAL STUDENTS

Accreditation criterion

A strict policy of supervising and follow-up of doctoral students is set. Doctoral students have access to various teaching and professional trainings and take part in scientific/professional actions. Explicit rules are defined concerning the thesis duration and defense. Measures to combat fraud, plagiarism and corruption are applied within the doctorate.

Criterion assessment

A program that offers students a strong supervision, disciplinary and methodological courses, and clearly based on industrial issues

AREA 4: INTEGRATION OF DOCTORS INTO THE JOB MARKET

Accreditation criterion

The doctorate implements systems to promote the doctorate and the integration of doctors into the job market. The integration monitoring and analysis are effective and used to perform the continuous improvement of the doctorate.

Criterion assessment

The doctors are easily integrated into the job market, essentially as lecturers in Nigerian universities. A systematic PhD monitoring tool remains to be developed.

ACCREDITATION DECISION

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

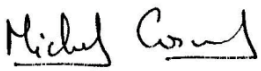
"Five-year unreserved accreditation decision"

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

1. The PhD programme in Petroleum/Gas Engineering is displayed in various documents; its title and its specialties differ from one other source of information; some homogenization should be undertaken. In a general manner, the Department's web site should be more precise about its different offers in terms of training. A better description of the doctor role in industry should also be provided.
2. Databases concerning the student follow-up are not sufficiently consolidated, as well as in terms of origin, specialization, and pathway after graduation.
3. Some financial efforts regarding the electronic scientific documentation are seemingly claimed by the students. Other financial efforts could compensate the absence of scholarships.

SIGNATURE

For HCERES and on behalf of



Michel COSNARD,

President

Date: Paris, September 4th, 2019

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are available online : www.hceres.com

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