

Kigali, 06/09/2018  
Ref No. VC.10.024/2018

**Dr. Ignace GATARE**  
**Principal, College of Science and Technology**  
**University of Rwanda**



Dear Principal,

**Re: Self – Evaluation Report of the ACE ESD PhD Programmes by Research.**

Self – Evaluation exercise was conducted by the University of Rwanda Centre for Postgraduate Studies (UR CPGS) for the three PhD Programmes by Research offered at the African Centre of Excellence in Energy for Sustainable Development (ACE ESD). The evaluation was done on the basis of a set of criteria to ascertain that the study programmes meet the international and National standards of Higher Education. The three programmes evaluated are:

1. PhD by Research in Energy Economics (PhD – EEC)
2. PhD by Research in Electrical Power Systems (PhD – REE)
3. PhD by Research in Renewable Energy (PhD – REE)

The reports attached here with show that the Aggregate analysis of each of the PhD by Research programme fall under Class B categorization, which implies that both the programmes are in a Good Standing level to be offered by the African Centre of Excellence in Energy for Sustainable Development (ACE ESD) at the College of Science and Technology.

The areas of improvement are detailed in the Self – Evaluation report for your consideration and continuous improvement.

Yours sincerely,



**Prof. Philip Cotton**  
**Vice Chancellor**



To: Director / ACE-ESD  
Please consider this  
report and act accordingly  
of date  
Principal (ST)  
18.09.2018

**Cc:**

- **Deputy Vice Chancellor (all)**

## SELF Evaluation Report

Title(s) of the study programme(s), study	Doctor of Philosophy degree by Research in <ul style="list-style-type: none"> <li>• Energy Economics (PhD-EEC)</li> <li>• Electrical Power Systems (PhD-PSE)</li> <li>• Renewable Energy (PhD-REE)</li> </ul>
Academic unit responsible for conducting the study programme	Africa Center of Excellence in Energy for Sustainable Development (ACE-ESD)
Principal compiler of self- evaluation of the study programme	Dr. Celestin Ntivuguruzwa Director, University of Rwanda Centre for Postgraduate Studies (UR CPGS) University of Rwanda. +250788305262
Study Programme Manager / Programme Manager	Prof. Etienne Ntagwirumugara +250788353874 etienne.ntagwirumugara@gmail.com
Brief description of the process of self-evaluation of the study programme.	The process of self evaluation of the study program is based on <ul style="list-style-type: none"> <li>• The General programme structure of Doctor of Philosophy Degree by Research at the University of Rwanda, July 2018.</li> <li>• How ACE-ESD meets the indicators of different criteria on self evaluation of PhD programmes by research</li> <li>• Student satisfaction survey conducted by SPIU</li> <li>• Monitoring and Evaluation reports how ACE-ESD has achieved different DLIs</li> </ul>

### Main results of the self-evaluation

Classification of Self Evaluation based on aggregate analysis	B
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Strengths	<ol style="list-style-type: none"> <li>i. Availability of necessary infrastructure and facilities.</li> <li>ii. Strong links of ACE-ESD and University of Rwanda with industry, community, and private sector.</li> <li>iii. Strong governance and management structure of the center and the university.</li> <li>iv. Strong political will to transform research outputs into products.</li> <li>v. High quality academic programs with outstanding research standards will significantly increase the training of energy professionals and scientists</li> <li>vi. Strong partnerships with international organizations and universities will foster collaboration in developing appropriate energy solutions.</li> <li>vii. Good teaching and research environment for high-quality impact research and training.</li> </ol>
Areas for improvement	<ul style="list-style-type: none"> <li>• Student Assessment</li> <li>• Student Support</li> <li>• Linkages and Networks</li> </ul>
Planned improvement of activities	<p>Improvements are mainly planned in the following activities:</p> <ul style="list-style-type: none"> <li>• Develop PhD handbook and all forms and all regulations in ACE and UR websites.</li> <li>• Recruit more Rwandan female candidate</li> <li>• Development of operational manuals</li> </ul>

### Self-Evaluation Team

Name and Title of the Person with contact details	Signature with date
<p>Dr. Celestin Ntivuguruzwa            Director, University of Rwanda Centre for Postgraduate Studies (UR CPGS)            University of Rwanda            +250788305262            Email: <a href="mailto:dcgs@ur.ac.rw">dcgs@ur.ac.rw</a></p>	 
<p>Prof. Nelson Ijumba            Deputy Vice Chancellor Academic Affairs and Research (DVC AAR)            University of Rwanda            +250783109848            Email: <a href="mailto:dvc.aar@ur.ac.rw">dvc.aar@ur.ac.rw</a></p>	 

## SELF EVALUATION CRITERIA FOR PHD BY RESEACH PROGRAMMES

For a programme to be successful it should meet the following criteria which is evaluated against a certain set of universal standards.

**Table1: Description of the Indicators for Assessment of the Criteria**

	<b>Criteria</b>	<b>Description</b>
1	<b>Institutional Governance and Management</b>	<p>The Higher Education Institution (HEI) has a clearly defined institutional profile.</p> <p>It has developed its own vision of quality in teaching and learning to create a basis for the development and realization of its study programmes. The vision and its related policies are documented.</p> <p>The mission and profile of the Unit (School /Center of Excellence offering the PhD programme) are documented.</p> <p>Strategies for implementing gender equality and equal opportunity policies are accounted for at all levels.</p> <p>The Unit takes appropriate measures to enhance internationalization both at programme and institutional level (support of student mobility, exchange programmes, scholarships, foreign language training etc.).</p>
2	<b>Intended Learning Outcomes</b>	<p>The educational goals of the study programme are clearly laid out and published. Graduates are familiar with the principles, methods and theories of science and research in their particular fields.</p> <p>The programme also ensures that</p> <ul style="list-style-type: none"> <li>➢ its students not only acquire key competencies within their chosen field of study but also relevant ones outside it,</li> <li>➢ the future employability of students is taken into account in the design of learning outcomes,</li> <li>➢ the formulated goals of the study programme are in line with the corresponding level in the National Qualifications Framework and comply with the general standards of the discipline and/or the professional field.</li> </ul>
3	<b>Concept and Structure of the Study Programme</b>	<p>The concept of the study programme and its curriculum ensure that</p> <ul style="list-style-type: none"> <li>➢ the intended learning outcomes are achieved and that it is possible to achieve them within the time frame allocated to the programme,</li> <li>➢ the entry qualifications of the incoming students are taken into account,</li> <li>➢ there is a programme specification describing the intended learning outcomes (fields of knowledge and competencies to be acquired), the modules to be taken and Supervisory Team support, the exact student workload and timeline of activities and other details,</li> <li>➢ the 360 credits to be obtained in this PhD programme by research are reflected in the structural design of the programme,</li> </ul>

4	<b>Research and Development</b>	<ul style="list-style-type: none"> <li>➢ Well established Research and development policy at University</li> <li>➢ Specific allocation of hours for research in staff workload</li> <li>➢ The quality of the publications out of this programme are well defined</li> <li>➢ Number of Publications with regional and international authors</li> <li>➢ Research support in terms of publication charges and conference attendance support offered to staff and students</li> <li>➢ Student exchanges, internships, specific research accounts to buy needs based equipments are in place.</li> </ul>
5	<b>Teaching Faculty</b>	<p>The University or the Unit guarantees that</p> <ul style="list-style-type: none"> <li>➢ there is a sufficient number of academically qualified teaching faculty with adequate educational expertise that cover the subject areas and disciplines included in the study programme to lead the Supervisory and Co-supervisory roles,</li> <li>➢ there is an institutional policy and practice to support and enhance the faculty's scholarly competence and research productivity,</li> <li>➢ Have effective and adequately funded staff development programmes to update systematically the pedagogical and subject specialist skills of the teaching staff.</li> </ul>
6	<b>Student Support</b>	<ul style="list-style-type: none"> <li>➢ Entry requirements for students and selection procedures are transparent</li> <li>➢ All regulations and procedures are easily accessible to students</li> <li>➢ There is a sufficient number of technical and administrative staff to support teaching and learning and research activities and to provide advice to students in personal, social and career matters.</li> </ul>
7	<b>Infrastructure and Resources</b>	<p>The Unit ensures that</p> <ul style="list-style-type: none"> <li>➢ the resources available for the support of student learning and research are adequate and appropriate,</li> <li>➢ the infrastructure and facilities (lecture rooms, specialized labs, computing facilities etc.) are adequate to the programme requirements,</li> <li>➢ there is an adequately equipped library at the students' disposal, the programme has sufficient financial resources.</li> </ul>
8	<b>Student Assessment</b>	<p>The Institution or Unit ensures that</p> <ul style="list-style-type: none"> <li>➢ the chosen forms of student assessment are apt to monitor the progress and achievement of intended learning outcomes,</li> <li>➢ the criteria, regulations and procedures for student assessment are clear, published and consistently applied,</li> <li>➢ intermediate assessments of progress and final viva voce examinations are organized in such a way that they remain feasible for students</li> <li>➢ there is a compensation scheme for disabled students, as e.g. alternative forms of assessment or more flexible time regimes.</li> </ul>
9	<b>Linkages and Networks</b>	<p>Demonstrate a commitment to collaborative and partnership working and other service providers, National/Regional and international training institutions and universities.</p> <p>Have strong networks to exchange experiences and to share best practices.</p>

1 0	<b>Quality Assurance</b>	<p>The Institution or Unit has implemented and published its policy and procedures for assuring and enhancing the quality of programmes and awards.</p> <p>Actively promote participation of relevant stakeholders in the development and delivery of the specialist curriculum and services.</p> <p>The unit proves that it compiles, analyses and uses relevant information for the effective management of study programmes and other activities.</p> <p>It has developed appropriate instruments and procedures for the approval, periodic review and monitoring of programmes and awards, as e.g. course evaluation, monitoring of student workloads, tracing of graduates' professional careers.</p>
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### **Classification of Self Evaluation based on aggregate analysis**

In order for a Study Programme to meet the International and National standard there ought to be an assessment made based on the above 10 criterions with a score of 10 points assigned to each criteria's assessment as described in the SELF EVALUATION CRITERIA FOR PHD BY RESEACH PROGRAMMES. Based on the total scores obtained by a PhD programme by Research, they are classified as,

1. Class C (Acceptable) 65 – 74%
2. Class B (Good) = 75 – 89%
3. Class A (Ideal) = 90% and above

#### **Class C:**

This is the **Acceptable level** where one must attain at least 65% of the overall score. This is the minimum level of attainment that can denote a programme met the minimum requirements to be offered but still requires further improvement in the identified areas in the assessment process. Programmes regarded as Class C still require continuous improvements in all areas to enable their progression to the next level.

#### **Class B**

Class B implies that the programme is in a **Good Standing level** to be offered. The programme therefore must attain at least 74% of the overall score. It is the second tier of attainment that signifies the programme has surpassed the minimum requirements and reflect standards that can be measured as good overall, but other factors would still dictate that the programme requires further improvement in the identified areas in the assessment process, to be treated as excellent. Programmes regarded as Class B still require continuous improvements in all areas to enable their progression to the next level.

#### **Class A**

This is **Ideal Level** where a programme is required to attain at least 90% of the overall score. It is the highest attainment that a programme is deemed to have achieved international standard status. Programmes regarded as Class A still require continuous improvements in all areas to enable their sustenance of the level.

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## CHECKLIST FOR EVALUTION

The weighting of score of each criterion is set equal and the indicators determine the Quality Management Principles. Based on the level of meeting the quality standards and expected outputs, the actual scoring will be derived, subsequently, as presented in Table 2, below.

**Table 2: Scoring Grid for the Self Evaluation of PhD programmes by Research**

Sl.No	Criterion	Indicators	Means of Verification	Max Score	Actual Score	Remarks
1	<b>Institutional Governance and Management</b>	<p>Institution vision existence</p> <p>Mission and core functions</p> <p>Unit/Center mission existence</p> <p>Relevance and reflection of the core mandate of the institution.</p> <p>Governing board and councils</p> <p>PG regulations</p> <p>Strategic Plan of HEI</p> <p>Action plan of the Unit</p> <p>Performance contracts</p> <p>M &amp; E plan</p> <p>MIS/Course management</p> <p>Approved budgets plan</p> <p>Audited accounts</p> <p>Procurement policy / plans</p> <p>Quality Assurance Policy</p> <p>Legal regulations impacting the HEI</p> <p>Degree of autonomy given in decision making</p>	<ul style="list-style-type: none"> <li>UR Board approved Strategic plan</li> <li>Organigram</li> <li>Relevant Senate approved Documentation/Minutes</li> <li>UR law &amp; Structure available</li> <li>Implementation Plan of ACE-ESD</li> <li>Documentation/compliance</li> <li>HEC regulations and procedures</li> <li>QA procedures documentation</li> <li>UR Law</li> <li>Prime Minister Order for autonomy</li> </ul>	9	Indicators related to institutional Governance and management can be verified.	
2	<b>Intended Learning</b>	<p>Aims and Objectives of the program</p> <p>Programme Structure</p> <p>(New/experimental/innovative and more recently established part of the programme)</p>	<ul style="list-style-type: none"> <li>Programme specifications of the PhD programme which describes ILOs.</li> <li>HEC framework of PG programmes</li> </ul>	10	9	These PhD programs are designed to achieve the

Outcomes	Formulated (ILO) ILOs compliance with the level defined by the HEC Qualifications Framework. Employability of future graduates Knowledge and competencies beyond the academic discipline	Intended Learning Outcomes	Evidence of Applied Research work-approved PhD proposals	ILOs
3	<b>Concept and Structure of the Study Program me</b>	<ul style="list-style-type: none"> <li>Awarding of credits for achieved learning outcomes</li> <li>Students achievement the ILOs within the calculated time frame</li> <li>Programme in line with the corresponding level defined by the HEC Qualifications Framework</li> <li>Programme utilize different forms and methods of teaching and learning</li> <li>Hands-on experience in research</li> <li>Extent the educational processes offer international perspectives</li> </ul>	<ul style="list-style-type: none"> <li>Program specifications</li> <li>Programme Timeline and milestones defined PhD handbook</li> <li>HEC framework (level 7) for PG programmes</li> <li>UR PG regulations</li> <li>Evidence of Individual/group work, relationship with professional practice, use and integration of e-learning tools and technology, projects, internships, etc.</li> <li>Regional/ International staff in Supervisory team</li> <li>Joint Publications with regional and international authors.</li> </ul>	10 9 The related indicators can be verified
4	<b>Research and Development</b>	<ul style="list-style-type: none"> <li>Research policy of HEI</li> <li>Research and Innovation office established</li> <li>Driven internally or externally to meet research needs</li> <li>Capacity building</li> <li>Staff development and capacity building plan</li> </ul>	<ul style="list-style-type: none"> <li>Senate approved documents showing UR strategy for increasing Research productivity.</li> <li>Technical workshops</li> <li>ACE-ESDBudget allocation to research</li> <li>Publications</li> <li>UR Journal series</li> <li>Abstracts &amp; UR conference Proceedings</li> <li>Reports</li> </ul>	10 9 Indicators can be verified
5	<b>Teach</b>	<ul style="list-style-type: none"> <li>Dissemination of research findings and outreach services</li> <li>Open days / Meetings</li> <li>Workshops / conferences</li> <li>Exchanges/Internships supported</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholders feedback</li> <li>Student exchange reports</li> <li>Internships reports</li> </ul>	10 8 Need to

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<b>ing Faculty</b> <ul style="list-style-type: none"> <li>Staff Recruitment procedures</li> <li>Staff for adequate coverage of all areas and disciplines</li> <li>Faculty active as scholars/researchers</li> <li>Staff from Regional and Internal Partners</li> <li>Volunteers</li> </ul>	<ul style="list-style-type: none"> <li>Staff CVs / credentials</li> <li>Staff / student ratio</li> <li>Researcher/ Research assistant ratio</li> <li>Full time/part time staff ratio</li> <li>Staff appraisal</li> <li>Focal points in MoUs</li> <li>Volunteer contract</li> <li>Supervisor /Co-Supervisor appointment letters/ Contracts</li> <li>Signed supervisor/co-supervisor ToR</li> </ul>	<ul style="list-style-type: none"> <li>Increase the number of local qualified supervisors</li> <li>Need to strengthen regional and international partnerships based on MoUs</li> </ul>
<b>6 Student Support</b> <ul style="list-style-type: none"> <li>Entry requirements for students and selection procedures</li> <li>Office for Career guidance and development services</li> <li>Entrepreneurship Course</li> <li>Completion rate</li> <li>Absorption rate of graduates in employment</li> <li>students have easy access to all information</li> </ul>	<ul style="list-style-type: none"> <li>Documental evidence for student selection</li> <li>Various statistics (gender disaggregated data, graduation rates, dropout rates, facilities and ratios etc.) documented.</li> <li>Compulsory Common course for all programmes at UR</li> <li>Tracer study by university statistics Office</li> <li>PhD handbook and all forms and all regulations in ACE and UR websites.</li> <li>Career counseling and advisory services.</li> <li>International Office in place for students</li> </ul>	<ul style="list-style-type: none"> <li>To improve the student focused services including international students officer</li> </ul>
<b>7 Infrastructure and Resources</b> <ul style="list-style-type: none"> <li>Infrastructure management</li> <li>Estates management</li> <li>Learning / research facilities</li> <li>Infrastructure adequacy in conformity to standards requirements (including ratios, where applicable)</li> <li>Laboratories</li> <li>Libraries</li> <li>Working rooms</li> <li>ICT facilities (Internet coverage, Computer</li> </ul>	<ul style="list-style-type: none"> <li>Budget allocation</li> <li>Documentation</li> <li>Physical verification</li> <li>User logs</li> <li>Comparison with existing national standards (Presidential norms &amp; standards for HEI)</li> <li>Physical verification</li> <li>Access Logs for various facilities</li> <li>Established offices</li> </ul>	<ul style="list-style-type: none"> <li>9</li> </ul>

		lab, Video conference, LMS etc) Special needs facilities Teleconferencing, and Virtual classroom facilities	• Stakeholder' feedback • Moodle LMS at UR			
8	Student Assessment	<ul style="list-style-type: none"> <li>▼ E-learning resources</li> <li>▼ Main methods of assessment</li> <li>▼ Assessment forms for evaluating the achievement of the intended learning outcomes</li> <li>▼ Grading system used</li> <li>▼ Examination regulations</li> <li>▼ Procedure to handle conflict between students and Supervisors</li> <li>▼ drop-out rate for the programme and how to keep it low.</li> <li>▼ average number of graduates per year</li> </ul>	<ul style="list-style-type: none"> <li>• Doctoral Committee(DC) in place for each student</li> <li>• Supervisory Team(ST) for each student.</li> <li>• Semester wise reporting</li> <li>• Comprehensive examination format</li> <li>• Synopsis format and assessment</li> <li>• ToR of supervisory team</li> <li>• PhD handbook</li> <li>• Student admission letters</li> <li>• PG regulations</li> <li>• External Examiner appointment letters</li> </ul>	10	8	
9	Linkages and Networks	<ul style="list-style-type: none"> <li>▼ Institution – Industry linkages</li> <li>▼ Apprenticeship/Internship</li> <li>▼ Placement</li> <li>▼ Professional development and Lifelong learning guidelines</li> <li>▼ Sponsorship / Fellowship</li> <li>▼ Networking and membership of different organisations / bodies</li> <li>▼ Collaborative programmes</li> <li>▼ Twinning arrangements</li> <li>▼ Resource mobilization policy and strategy</li> <li>▼ Partnership with industry/private sector</li> <li>▼ Institutional marketing and visibility strategies</li> </ul>	<ul style="list-style-type: none"> <li>• MoUs</li> <li>• Reports</li> <li>• Operational manuals</li> <li>• IEEE student chapter, Student registrations at IER</li> <li>• Joint Projects</li> <li>• Joint publications</li> <li>• Communication strategy of UR and ACE-ESD</li> <li>• UR policy on Resource mobilization</li> <li>• UR membership at AAU,IUCEA,RURA, RUFORUM, ARUA,ACU</li> <li>• MoU indicating student exchanges and credit transfers</li> <li>• Public Relations Office</li> </ul>	10	9	
10	Quality	<ul style="list-style-type: none"> <li>▼ Involvement of stakeholders</li> <li>▼ Operational plan /Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>• UR Quality Assurance policy</li> <li>• Survey report- SmartRwanda Master</li> </ul>	10	9	Frameworks, Policies and

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<b>Assurance</b>	▷ Needs assessment and Development and Review of the programmes and courses design	• plan	Reports of process followed in the programme development		
		• Evidence of accreditation of graduate modules and programmes			
		<b>Total Scores</b>	100	87	

### Self-Evaluation Team

Name and Title of the Person with contact details	Signature with date
Dr. Celestin Niyuguruza Director, University of Rwanda Centre for Postgraduate Studies (UR CPGS) University of Rwanda +250788305262 Email: <a href="mailto:dcgs@ur.ac.rw">dcgs@ur.ac.rw</a>	 05/03/2018
Prof. Nelson Ijumba Deputy Vice Chancellor Academic Affairs and Research (DVC AAR) University of Rwanda +250783109848 Email: <a href="mailto:dvc.aar@ur.ac.rw">dvc.aar@ur.ac.rw</a>	 

for