

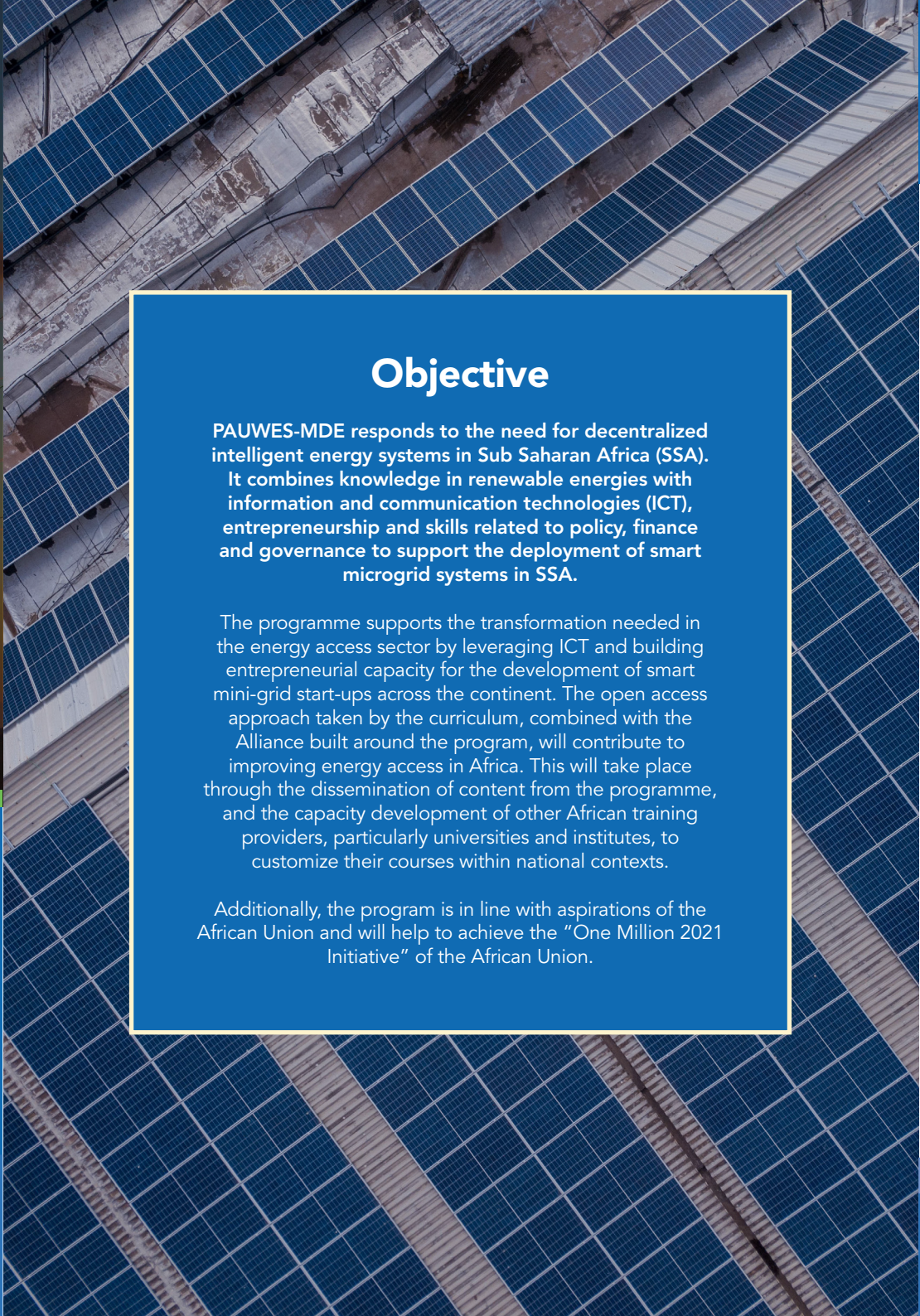


PAUWES-MDE

Mini-grid, Digitalization and Entrepreneurship

The PAUWES-MDE programme is a new online postgraduate course developed in collaboration between the Pan African University Institute for Water and Energy Sciences (PAUWES) and the Global e-Schools and Communities Initiative (GESCI). It aims to strengthen the capacity of African youth, helping to develop technical and entrepreneurial skills towards the creation of smart micro-grid start-up businesses for the mini-grid sector.

The curriculum of the programme is described as an ‘entrepreneurship incubator’, integrating actors, stakeholders and features of innovation and entrepreneurship ecosystems. Combined with the strengths of higher education, it makes for a flexible and agile programme.



Objective

PAUWES-MDE responds to the need for decentralized intelligent energy systems in Sub Saharan Africa (SSA). It combines knowledge in renewable energies with information and communication technologies (ICT), entrepreneurship and skills related to policy, finance and governance to support the deployment of smart microgrid systems in SSA.

The programme supports the transformation needed in the energy access sector by leveraging ICT and building entrepreneurial capacity for the development of smart mini-grid start-ups across the continent. The open access approach taken by the curriculum, combined with the Alliance built around the program, will contribute to improving energy access in Africa. This will take place through the dissemination of content from the programme, and the capacity development of other African training providers, particularly universities and institutes, to customize their courses within national contexts.

Additionally, the program is in line with aspirations of the African Union and will help to achieve the “One Million 2021 Initiative” of the African Union.

Pedagogic Approach and Mode of Delivery

The programme will use problem based and experiential learning, following a blended approach that combines online lectures, tutorials, assignments and practical exercises.

Mentorship will be provided online and face-to-face, with experts and entrepreneurs in the sector. Additionally, practical classes (virtual labs) will help students to apply their knowledge, and given the programme’s focus on practical experience, evaluation mechanisms will include moderated self-assessment, peer review and assignment scoring.

The programme will be accessible across the continent to young graduates. Instruction will be English, with additional languages such as French planned as a future option.

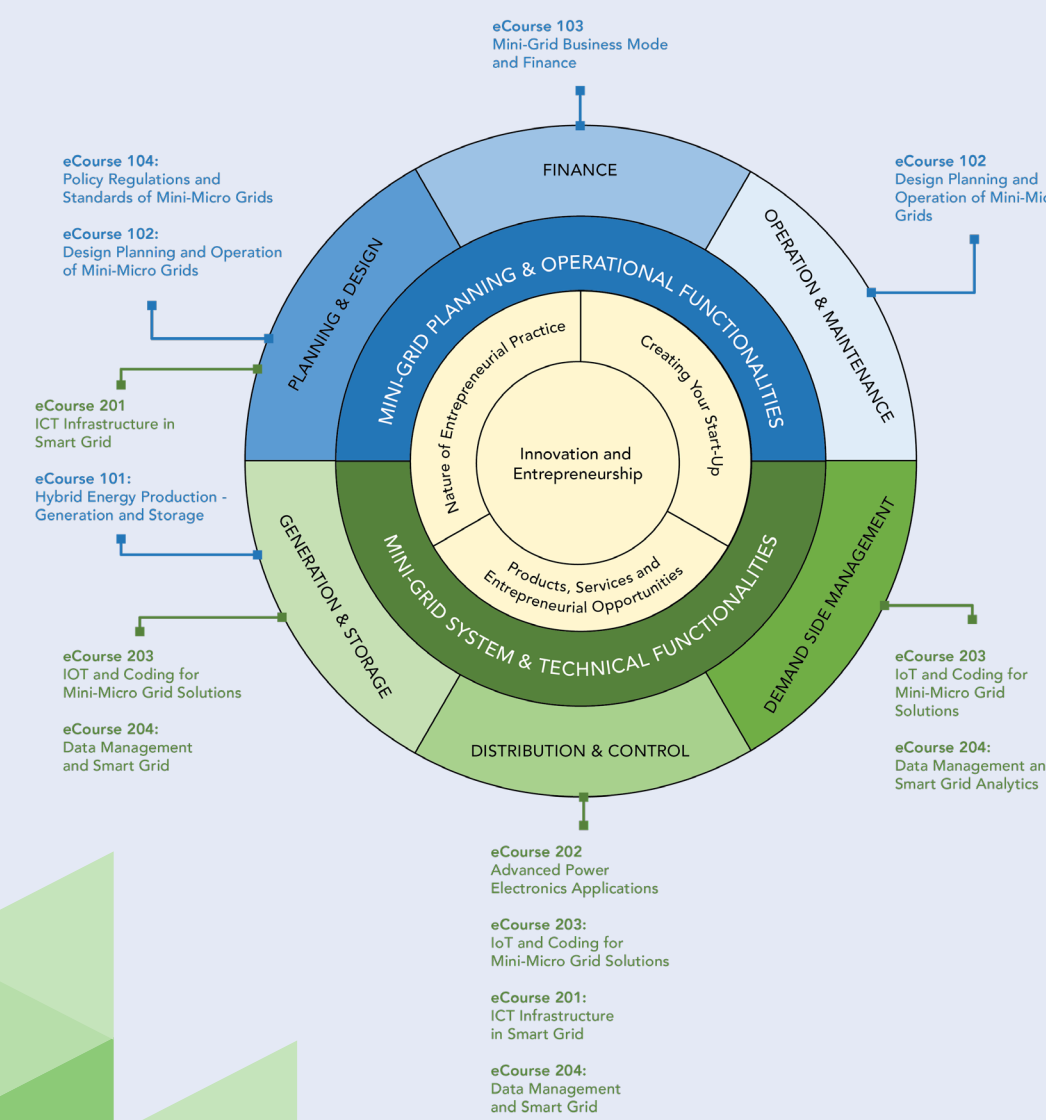
Programme Structure

The programme is built on four core modules which comprise of eCourses, practical labs, methodological seminars, transversal units, an internship and thesis.

Core Modules	Enrollment
Module 1: Mini-Micro Grid (Online) Focusses on the development of a comprehensive set of skills necessary to successfully design, develop, manage and operate decentralized renewable energy projects.	0-3 months
Module 2: Digitalization, ICT4 for Mini-Micro Grids (Online) Provides essential skills on emerging technologies (Internet of Things, big/smart data, artificial intelligence, coding, etc.) in mini-grid with relevance for the African context.	3-6 months
Module 3: Innovation and Entrepreneurship (Online) Provides theoretical background and appropriate courses related to all aspects for the planning, development and administration of a start-up business.	6-9 months
Module 4: Business Start-up Thesis (Blended) Focusses on the implementation of a start-up business case with the development, testing and validation of a prototype that follows an action research approach.	9-12 months

Course Information

The course catalogue also addresses the skills and competencies required for the development of an ICT supported start-up in the life cycle of a mini-grid system. This is designed from a technical systems perspective, including planning, operational functionality and deployment of the proposed business case. The themes that run throughout the programme are illustrated below.



Entrepreneurship

The PAUWES-MDE is described as an ‘entrepreneurship incubation model’ that links youth entrepreneurship in Africa to ICT and renewable energy by offering a programme that embeds entrepreneurial knowledge throughout its curriculum.

The program provides opportunities for digitalisation and strengthens the entrepreneurial abilities of students, leading to the creation of small enterprises/start-ups or self-employment for the improvement of energy access in Africa. Details of this are explained below.

Mentoring, Incubation and Acceleration

Mentorship will play a key role within this programme. Mentors from the private sector and entrepreneurial sphere within mini-grid and renewable energy sectors will support the students throughout the programme. They will:

- supervise students practical thesis;
- advise the students on the feasibility of their prototype product/service;
- guide the students towards compliance of their prototype within existing regulations, and registration processes for a start-up business using the Industry Experts Working Group to pitch their business plan/product; and
- use local experience to support their learning with international linkages.

If you would like to be part of our pool of mentors for this programme, please send an expression of interest to the email address found in the Contacts section.

Incubation will play an important role in the programme as students will be connected to the entrepreneurship community, consisting of students, mentors/entrepreneurs, venture capitalists to develop their business ideas.

PAUWES-MDE will also link students to local tech hubs to accelerate the maturation of their product/start-up after they complete the programme.

Innovation and Entrepreneurship Module

This module partly builds on existing courses developed by tech-hubs from across the continent, and new eCourses developed according to specific needs for gaining entrepreneurial skills and knowledge.

- **eCourse 301**
The Nature of Entrepreneurial Practice
- **eCourse 302**
Products , Services and Entrepreneurial Opportunities
- **eCourse 303**
Creating Your Start-up

Entrepreneurship is also integrated into all knowledge-based modules (modules 1 and 2) with case studies and practical exercises focused on and applied to the development of a start-up business.

The programme is capped with an enterprise/start-up business thesis to be defended before an academic panel, together with a technical prototype or business case (social enterprise, start-up, etc.) that will be pitched to a panel of potential investors/venture capitalists.

The PAUWES-MDE Learning Alliance

The PAUWES Mini-grid Digitalization Entrepreneurship Learning Alliance (PAUWES – MIDELE) is a framework that will be built around the PAUWES-MDE for the promotion and adoption of its modules and entire curriculum by member universities of the Alliance. It will:

- Allow universities and institutions to not only join the Alliance, but have free access to the modules offered, and adopt the entire curriculum or individual modules in their respective curricula. Also, to replicate the programme in their respective institutions.
- Introduce an additional capacity building programme with the ‘training of trainers’ component to develop new experts within partner institutions. This will optimize the adoption and implementation of the new programme at their respective universities.

Consortium



The Pan African University Institute for Water and Energy Sciences (incl. Climate Change) (PAUWES) is one of the five hubs of the Pan African University and is hosted at the University of Tlemcen (Algeria). It produces knowledge for tackling the challenges faced by African countries with regards to water, energy and climate change. PAUWES nurtures the potential of youth to develop their capacity through education, leading to more entrepreneurship, the creation of start-ups and improved employability on the continent.



The Global e-Schools and Communities Initiative (GESCI) is an international non-profit organisation founded on the recommendation of the United Nations Task Force on ICT. GESCI is an accredited online training provider specializing in developing curricula and skills programmes that promote entrepreneurship. It envisions a world with widespread use of digital technologies to achieve a higher level of inclusiveness and equality, making use of ICT in the provision of services, including skills development for youth enterprise and employment.

Contacts

Dr. Erick Gankam Tambo Project Manager Pan African University Institute for Water and Energy Sciences tambo@ehs.unu.edu	Angela Arnott Partnerships Manager The Global e-Schools and Communities Initiative angela.arnott@gesci.org
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Donors

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