# EXCELLENCE IN AFRICA

# DIGITAL EDUCATION

## CALL FOR EXPRESSIONS OF INTEREST IN THE CREATION OF A CENTRE OF COMPETENCE IN DIGITAL EDUCATION (C-CoDE)
### SUBMISSION DEADLINE AUGUST 15, 2020

## Introduction and Context

Higher education in Africa is facing unprecedented challenges. Due to the demographic evolution and the lack of investment in tertiary education, universities cannot accommodate a growing number of graduates. Furthermore, the available curricula are often not aligned with the requirements of local economies. Training at the Master and PhD level can be severely limited by the lack of advanced courses, especially in Science, Technology, Engineering and Mathematics (STEM).

Digital education provides an opportunity to reach talented and motivated African students who would otherwise not have access to higher education. To support scientific research throughout the African continent, Mohammed VI Polytechnic University (UM6P) in Morocco and the École polytechnique fédérale de Lausanne (EPFL) in Switzerland have launched the Excellence in Africa (EXAF) initiative. One of the three pillars of this initiative focuses on digital education, building on EPFL's and UM6P's proven track record in this area. The goal is to provide STEM students enrolled in Master and PhD programmes across Africa with access to educational material and tools of the same quality as in Switzerland, yet relevant to local research programmes and the needs of Africa.

## About Mohammed VI Polytechnic University

UM6P is a hub of education, research, innovation and entrepreneurship. Its goal is to act as a bridge of knowledge between Morocco, Africa and the world. UM6P has implemented an innovative teaching and research model focusing on experimentation. The university's sites are equipped with "Living Labs" such as experimental farms, mines, factories and cities. Those full–scale work platforms are designed to allow researchers to achieve their full potential.

## About EPFL

EPFL is one of the world's leading institutes of science and technology. It brings together students, professors and staff members from over 120 countries. EPFL is a public institution endowed with three missions: teaching, research and innovation. It collaborates with a wide array of partners, including other universities, middle and high schools, companies, political actors and the general public, with the aim of having a real impact on society at both national and global levels.

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## Objectives of the programme

The programme aims to promote the sustainable integration of digital education in the teaching process of African institutions of higher education in STEM disciplines, as a means to strengthen the quality of teaching as well as the competencies of graduates.

These institutions will be provided with the means to transform their educational curricula by integrating modern digital education methods. As of 2020, the programme will launch a total of six sponsored projects lasting two years (3 starting in 2020 and another 3 starting in 2022), through six institutional partnerships with leading universities in Africa. This will lay the foundations for the launch of the Digital Education component of the Excellence in Africa initiative. The key element of each partnership will be the creation and the development of a Centre of Competence in Digital Education (**C-CoDE**) in each partner university.

By encouraging the use of innovative digital technologies in educational practices, the aim is to strengthen the techno-pedagogical skills of lecturers and to train them in the production of digital content and its use in university courses.

The initiative will proceed in two steps, to:

I.   enable the university to acquire the necessary skills, infrastructure, capacity and quality standards to operate a C-CoDE serving the institution. Such a Centre will contribute to the design, production and dissemination of Massive Open Online Courses (MOOCs) and Open Educational Resources (OER). The faculty of the institution will also be trained in the integration of ICT-enabled teaching methods.
II.  extend the Centre's sphere of activity to serve other African institutions, for instance within a broader linguistic or geographical region.

For the project to have long-term institutional impact and be transformative, the partner universities commit to:

- Integrate the use of the resources produced by the Centre in their educational programmes
- Encourage the pooling and sharing of digital educational resources
- Boost the development of new teaching practices by motivating and supporting the lecturers engaged in this venture,

at first within the institution and then more broadly.


## Call for applications

This call for applications aims to establish the first three (out of a total of six) institutional partnerships with renowned universities in Africa in 2020, leading to the creation and the development of a C-CoDE at each selected university.

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## Overview of the C-CoDEs

To reach the above objectives, each C-CoDE will be set up to achieve the following results, initially within the institution:

| Action | Result(s) |
|---|---|
| A. Review institution-wide plans and regulations to deploy digital tools, content and technology at all levels of education | A blueprint is agreed upon with all academic stakeholders (institutional, national, …). Academic regulations are updated to allow and promote the use of digital education |
| B. Appoint and train technical staff in the operation and maintenance of a multimedia production studio | Permanent technical staff is capable of managing a multimedia production studio and delivering ready to publish/broadcast educational resources |
| C. Undertake the necessary physical plant works and procurement of technical equipment to set up a multimedia production studio | A fully functional multimedia production studio is on-site, allowing the production, shooting and editing of high quality digital educational content |
| D. Appoint and train a pedagogy specialist and 3 to 4 experienced faculty as academic advisors to the wider academic community in the use and production of digital educational resources | An education specialist and a team of experienced faculty are trained and are actively organising information/training seminars, as well as coaching fellow faculty in their educational activities |
| E. Train and coach university faculty in instructional design and in the use and production of digital educational resources | Courses are updated and integrate pedagogical approaches that take advantage of the full potential of digital educational tools |
| F. Design and implement quality control mechanisms ensuring that high-level standards are reached in the academic output of the Centre | The Centre dispenses high-level, high-quality, courseware and digitally-based pedagogical vehicles within (i) the institution and then (ii) within a wider community of STEM higher-education institutions |

The aforementioned training activities will be organised both on site (i.e. within the premises of the partner university), at EPFL or UM6P, or remotely, and will include seminars, webinars and/or intensive 3-4 days workshops.

For the duration of the project, a personalised coaching service will be offered by UM6P and/or EPFL to the newly created Centres and associated faculty for the production and use of MOOCs and OERs, as part of their pedagogical project in STEM education.

## Application procedure

Universities wishing to benefit from this programme must go through a two-stage selection process consisting of:

1) an open call for expressions of interest across Higher Education Institutions in Africa, and
2) an invitation to selected Higher Education Institutions who have expressed interest to submit a full proposal.

## Funding

The programme awards up to 100'000.- Swiss francs to each partner institution for the project of creating a Centre over the period of 2 years maximum. This amount will cover, in whole or in part, expenses associated with training or technical equipment and infrastructure. Funding will be available as needed and will cover, in whole or in part, expenses associated with training or technical equipment and infrastructure. Funding for equipment and infrastructure will be available as needed.

For the funding of the equipment and technical infrastructure to be released, the following conditions must be met by the home institution within the first 12 months of the programme:

1. Infrastructure: The premises hosting the C-CoDE are identified by the institution and validated by the programme manager. The surface of the premises must be at least 100m$^2$ and include:
   a. A room dedicated to recording. This room must be air-conditioned and soundproofed according to the specifications provided.
   b. An air-conditioned room that will serve as a technical room.
   c. An air-conditioned room that will serve as an office for the production team and be also used for teacher preparation and training.
2. Human resources: At least two persons are appointed with a specific mission to manage and animate the day-to-day operations of the C-CoDE:
   a. An engineer or technical specialist, in charge of the operation and maintenance of the multimedia production studio.
   b. A techno-pedagogical specialist, in charge of advising and coaching faculty members in digital education.
3. Funds: A written commitment to provide a minimum of 15'000 Swiss francs worth of matching funds for the acquisition of technical equipment.

## Eligible costs are limited to:

- Training of lecturers, techno-pedagogy experts, multimedia studio technicians. Training may take place at the host institution, at EPFL or at UM6P. In the latter two cases, travel and accommodation costs will be covered by the programme.
- Up to one-year personalised follow-up of lecturers by a pedagogical engineer for carrying out a pedagogical transformation project using digital technology.
- Audio-visual and IT equipment for the recording, editing and production of digital educational resources, such as MOOCs, OER, videos, etc. The amount granted to this equipment cannot exceed 50% of the total expenditure.
- Contribution to the physical plant works for the rehabilitation of the premises that will host the C-CoDE. The amount granted to these works cannot exceed 50% of the total expenditure.

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## Non-eligible costs:

- Institutional overheads.
- Currency fluctuations: Granted amounts are set in Swiss francs. In case of any currency fluctuations, the budget awarded to partner institutions in Swiss francs remains unchanged.

## Eligibility Criteria

The submitting institution must:

- be an African public academic institution;
- be a nationally accredited higher education institution that has had at least 3 years of continuous and visible operations;
- physically locate the future Centre in Africa.

## Application procedure and Documentation

Interested institutions are invited to submit an online application to the Call for expressions of interest, together with the requested documentation. The initial applications will be reviewed by a joint EPFL-UM6P committee. Selected institutions will then be invited to submit a full proposal. The final selection will be made by the Joint Steering Committee of the Excellence in Africa initiative.

A formal Memorandum of Understanding and an Implementation Agreement will be signed between the designated institutions and the EPFL to set forth the operational and financial details of the project.

### Step 1 – Expressions of interest

The following items are required by August 15, 2020, 18:00 GMT:

| | |
|---|---|
| Letter of Institutional Commitment | Please submit a letter signed by the head of the institution confirming the institutional commitment to implement the project. Please use this template. |
| Presentation of the submitting institution | Please present the legal status, organisational structure and campus location(s) of your institution, together with relevant statistics. Please use this form. |
| Learning environment at the institution | Please describe as accurately as possible the learning context at your institution, including delivery methods, pedagogy used, access to educational resources, student/lecturer ratios, etc. Please use this template. |
| Existing infrastructures and facilities related to e-learning | Please describe the Internet connectivity, intranet deployment available across the university campus, access to connected terminals, as well as the Student Management System (SMS), Learning Management System (LMS) and any other facilities that may be relevant to the project. Please use this template. |
| Sketch of the proposed initiative | Please describe in a one-page document your vision for the construction, location and impact of the C-CoDE within your institution. |

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## Step 2 – Full proposal and final selection

For selected institutions, the following items are required by early September, 2020:

| | |
|---|---|
| Letter of agreement to institutional provisions | Please submit a letter of agreement to institutional provisions for the participation to the C-CoDE. Please use this template |
| Description of the local coordination | Please give the name, function and qualifications of the following persons appointed to manage and coordinate the project: (1) Project coordinator, (2) Academic focal point, (3) Technical focal point. Please use this template |
| An institutional plan for digital education (3 pages max.) | Please describe the institution's plan or vision for digital education and the short and long-term integration and sustainability of the C-CoDE within this plan. How will the project contribute to the institutional strategy related to e-learning/digital education? |
| A needs analysis for the effective implementation of the project (5 pages max.) | Please submit a comprehensive needs analysis, including human resources, technical infrastructure, regulatory environment and physical infrastructure needed for the implementation of the project. |

## Eligibility check

The Centre Excellence in Africa at EPFL will assess the eligibility of all applications.

Applications will only be considered eligible if they are submitted online before the deadline of August 15, 2020, including all the required documents, and if they strictly abide by the guidelines laid out in this document.

The EPFL will inform non-eligible applicants by email.

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## Evaluation and selection criteria

- Institutional readiness to:

  a) promote the development and

  b) integrate the use of digital resources and new pedagogical methods;

- Management commitment for institution-wide implementation of best practices in STEM education;
- The involvement of faculty and lecturers in the pedagogical transformation project;
- Management commitment to co-finance the setting up of the C-CoDE;
- Existing infrastructure, as well as technical and pedagogical expertise;
- Originality and quality of the project, its expected output and its anticipated long-term institutional impact;
- Potential for regional impact.

Applicants accept, when they apply, that decisions rendered by the Joint Steering Committee are binding and final.

Applicants hereby expressly and irrevocably waive all rights of appeal or recourse to any court, except such rights cannot be waived by the Laws of Switzerland, in which case the exclusive place of jurisdiction shall be Lausanne (CH).

## Timeline (2020)

- June 30:            Call for expressions of interest opens
- August 15:          Step 1 – Expressions of interest – submission deadline
- Early September:    Invitation to submit a full proposal sent to selected universities
- Mid-October:        Step 2 – Full proposal – submission deadline
- Mid-November:       Final decision by the Joint Steering Committee