

MAKERERE UNIVERSITY



Taking the lead in the realization of vision 2040

Makerere University is ready to propel the country in the desired Vision 2040. Makerere University is a renowned hub for knowledge creation, research and innovations. Over 35,000 students are pursuing degree programmes at this great institution, which boasts of countless alumni spread across the globe.

CEDAT committed to driving industrialisation



Prof. Henry Alinaitwe
Principal College of Engineering, Design,
Art and Technology (CEDAT)
Makerere University

The College of Engineering, Design, Art and Technology (CEDAT) at Makerere University is determined to deliver graduate engineers who are well founded in engineering fundamentals, blended with the highest standards of professional and ethical behavior, and are prepared to meet the market technical. According to the Principal Henry Alinaitwe the College has three schools: Engineering; the Built environment and for Industrial and Fine Arts that are braced to address the challenges and the needs of the times. The School of Engineering is the home of three

Engineering Departments: Civil and Environmental; Electrical and Computer Engineering and Mechanical engineering. The School of the Built Environment has three departments: Architecture and Physical Planning; Geomatics and Land Management; and Construction Economics and Management. All the three schools are contributing to teaching and learning, research and innovations contributing to achieving Vision 2040.

“Our mission is to provide excellent teaching and learning, innovative and cross-disciplinary research and knowledge transfer partnerships,” stressed Prof. Alinaitwe. “Here we offer students opportunities to grow beyond their chosen disciplines by participating in a variety of industry-sponsored projects, exchange programs, and research activities.”

True to his word, the College provides an academic environment conducive to the determined staff achieving the highest levels of academic and research excellence. “That way we continue being in the lead among engineering colleges in the region,” added Prof. Alinaitwe. “This is besides providing national leadership in undergraduate and graduate engineering education.”

In Vision 2040 he said that the College has a lot of contribution to make in strengthening fundamentals for harnessing opportunities. He gave examples of minerals – characterisation and beneficiation; industrialization – like in the case of Kiira Ev now being developed to produce vehicles by 2020; knowledge and ICT sector – such as the Academic

Records Management System. The others include: water resources – includes modelling and simulation; transport infrastructure and services; energy – such as gasification, solar technologies and energy efficiency; urban development and land. He gave the example of where staff at the college are helping local people acquire documents showing ownership of the land they own without formal land certificates.

Currently the school offers both undergraduate and graduate programs in various engineering departments. There is the Department of Civil and Environmental Engineering offering a Bachelor of Science in Civil Engineering. Then there is Electrical and Computer Engineering offering a Bachelor of Science in: Electrical Engineering, Computer Engineering besides Telecommunication and Engineering. The Mechanical Engineering department offers a Bachelor of Science in Mechanical Engineering. Each of the departments provides graduate programmes as well.

The students are taught by a team of some of the best staff you can get in the region. The programs are periodically reviewed to conform to the changing global trends and standards. Beaming with a smile of satisfaction Prof. Alinaitwe confides that Engineering and Science programmes are time consuming, resource demanding and challenging to administer. “But time has proven that it is rewarding and providing scholars an opportunity to serve their society,” stressed Prof Alinaitwe.

Students and staff are involved in innovative projects. “There is the solar irrigation pump which is bound to

solve problems associated with the effects of climate change. There is the fruit drier which adds not only value to agricultural produce but a longer shelf life.”

Besides that the college has had collaboration with Oil and Gas companies and sent students to master oil gas pipeline construction and welding on a bigger scale. “The challenge is upon us to provide human resource in terms of engineers, hydrologists, surveyors, architects, transport engineers, designers, fine artists and so on.” Prof. Alinaitwe adds that, “The college is braced to produce the needed abundant labor force to meet the requirements of development expected.”

Giving examples the Prof. said there is need to exploit more building and road construction materials to improve/minimize construction costs. The scholars have already been involved in planning emerging and growing urban centers. In years to come there will be residential, industrial and agricultural centers if land management is to make economic sense.

“For example the tarmac scrapped from worn out roads can be recycled and exploited for another use and to generate electricity does not need turbines as big as those in Nalubale Dam only. We need solutions to manage the rapid urbanization and land fragmentation happening in most neighborhoods. The College is providing experts in those areas as well.”

Prof. Alinaitwe has been given a fresh term to serve as Principal of CEDAT after the past successful term of 5 years.

Producing a scholarly community to suit 2040



Prof. Okello Owiny
Deputy Directorate of Research and
Graduate Studies Makerere University

To brace for 2040, The Makerere University Directorate of Research and Graduate Studies continues to produce both graduate students, researchers and supervisors with a sense of belonging in a meaningful scholarly community.

Associate Professor Okello Owiny testifies that they co-ordinate and administer all research in Makerere where the majority of research in Uganda is conducted.

“This is in addition to advice on research priorities geared to the fulfillment of National Development professional objectives such as

Vision 2040,” said Owiny. “The department serves as an outreach providing a bridge between the University and the outside world as well.”

Among the multiple beneficiaries are the: industries, commerce and several other sectors in the society. Inevitably the department remains in the lead when it comes to research and graduate training in the entire region. In preparation for Vision 2040, it competitively: co-ordinates, monitors and provides an enabling environment for quality graduate training, innovative research and communication of the research findings. “We do not want to keep our findings on the shelves but utilize them like Asia and Europe does,” stressed Owiny. “The more reason we are foster and manage graduate training and research in the university units by promoting cutting edge innovative, impact-oriented research and centers of excellence to meet the fast changing needs of our society.”

Endowed with an exceptional community of researchers Makerere has repositioned herself as a research driven university where research; teaching & learning; and knowledge transfer partner-ships and networking, the core functions of the university are strengthened. That way, the institution is able to focus more on knowledge production to support evidence-based decision making and to power the growth of the Ugandan economy as desired in 2040.

Way back in 1994 the Makerere University Council approved the establishment of a School of Postgraduate Studies, which metamorphosed into the School of Graduate Studies and finally into the Directorate of Research and Graduate Training in 2010, it siphons out: Postgraduate Diplomas, Master’s Degrees, Doctorates and Higher Doctorate Degrees.

“The more reason we are able to continue coordinating, monitoring and providing an enabling environment for quality graduate training, innovative research and communication of research outputs,” revealed Owiny. Adding that, “We also foster and manage graduate training and research in the university units with innovative, impact-oriented research, and centers of excellence to meet the changing needs of society and for sustainable development as desired by Vision 2040.”

The Directorate’s strong points are in: Graduate training and research in units of the University; Promoting innovation and integration of Universities research and training to development processes and practice in the country.

“We are tasked to promote a multi-disciplinary approach in conducting research and training in Universities to support rural and indeed national development,” counted Owiny. “These

are in addition to building, rationalizing and sharing research and training capacities and resources in graduate training and research to add value to units as well as enhancing the quality and specialization as the times need be.”

In a nut shell to dance to the tune of Vision 2040, The DRGT commits itself to fostering efficiency, effectiveness and relevance of graduate training and research by units of Makerere University. These are in addition to building and sustaining most of its activities on collaboration and active partnerships within the University as well as with several external stakeholders and development partners.

DRGT reportedly welcomes all constructive guidance and patronage as we continue to play a proactive role in national development. It is their responsibility to ensure that research and innovation creates new information and pushes the boundaries of knowledge, for the development and transformation of Uganda.

Located on Senate building level four, DRGT is doing all these things in partnership with: Sida-Makerere Bilateral Research Corporation, Carnegie Corporation of New York, Cambridge-African Partnership for Research Excellence (CAPREX), Intrac-ACP Arise, and Consortium of Advanced Research Training for Africa (CARTA) amongst other partners.

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Prof. Paul Birevu Muyinda

Deputy Principal Makerere University, College of Education and External Studies

College of Education and External Studies Striving to Achieve Vision 2040 Goals

teacher trainees, pursuing science related subjects are developed through the Bachelor of Science External, a distance learning programme. All these efforts come in handy in preparing a firm human resource base for UPE and USE as envisioned in the Vision 2040.

Prof. Muyinda further said that in order to achieve the Vision 2040, the College is also emphasising character formation and talent identification through the EPICA Project. EPICA is the short form of the Project titled: StratEgic Partnership for the Co-design of an Innovative and SCALable eportfolio Ecosystem to Improve the Quality and Visibility of Skills. EPICA is funded by the European Commission under the Horizon 2020 Programme. The EPICA project aims at creating and visualizing skills through the use of competence based teaching and learning approaches aided by an electronic portfolio (E-Portfolio). An E-Portfolio is a web system where learners record their day to day learning experiences and reflections using text, audio, graphics or video for whoever is interested to visit and see, read, listen or watch the skills of the learner. The learners are free to visit their e-portfolio and revise it whenever need arises. Prof. Muyinda, who is the Principal Investigator of the EPICA project, said the project was being implemented under a partnership between three universities in East African, namely: Open University of Tanzania, Makerere University and Maseno University with the International Council for Distance Education (ICDE), Norway, being the lead agency.

In the project, "... we are developing competence-based teaching and learning methods which if embraced have high chances of developing students' invisible skills commonly known as the 21st Century skills like communication, critical thinking, leadership, multilingualism, teamwork, collaboration, among others, in addition to equipping the learners with their respective professional skills", Muyinda said. He added that "the intention of developing such skills is to ensure that our graduates are employable and the gained skills can be visualized by potential employers through an e-portfolio". So students will have to give access to their e-portfolios to potential employers.

The Deputy Principal observed that the spark of the EPICA project was that, a big number of youth in East Africa in general and Uganda in particular were unemployed not because jobs were unavailable but because most of them lacked the transferable skills beside the professional skills and the teaching and learning methods in schools were mainly emphasizing rote learning for simply passing examinations.

"During the formulation of the EPICA project, we realised lack of transferable skills as the major challenge that needed to be solved through creating an all-round graduate, and since the teachers are the ambassadors of transformation, if they lacked such skills, it would be difficult to produce learners with transferable skills and professionalism", Muyinda added. "EPICA is therefore contributing to the vision of character formation and talent identification as envisioned in Vision 2040", he said

Concerning the vision of developing all Government supported tertiary education into skills development, the College of Education and External Studies, through its Center for Lifelong (CLL), formerly known as, the Department of Community Education and Extra Mural Studies, with study centers located across the Country, offers a range of skills improvement tailor made short courses to the community. CLL has also partnered with UBTEB to offer business, technical and vocational courses. "CLL takes the University to the community and brings the community to the University", said Prof. Muyinda.

Towards the Introduction of National service to promote work ethics, patriotism, and voluntarism with emphasis to practical skills aptitude and moral values, Prof Muyinda, stated that his College has since time immemorial embraced the teaching of ethics to teachers and behaviour in society.

"The society considers a teacher as a special person supposed to behave in an exemplary way in all aspects of life. We are training teachers of high standards who are supposed to be role models, people of highest esteem, high value, very appreciative and this has kept the teacher to be one of the most patriotic person", Muyinda said. Teachers, Prof. Muyinda said, are the most patriotic citizens. He emphasised his point by saying, "the teachers are the lowest paid civil servants, yet they continue to religiously do their work of shaping the morals, values, and professional stances of the citizenry. Teachers are working in hard to reach areas of our country. They work in all kinds of communities with all kinds of children and shape them. As such they are indeed very patriotic citizens and it is at the College of Education and External Studies where we create such special citizens, the teachers".

On the vision of introducing a one year of internship on all academic programmes, Prof. Muyinda stressed that the College was one of the first units at Makerere University to introduce internship (in form of School Practice or teaching practice) before it was spread out to the rest of the University colleges. "Education students go for school practice twice (during their 2nd and 3rd years)", he said. Other programmes in the College – Bachelor of Adult and Community Education, Bachelor of Education External, Bachelor of Science External, Bachelor of Commerce External, Bachelor of Youth Development Work External and Bachelor of Agricultural and Rural Innovations External, all have an internship component. The internship programme equips our learners with practical and life skills. "We want our graduates to leave the university when they can put the skills acquired while at the university into practice," he said.

Vision 2040 also envisions having education curriculum instruction and examination revised to align with changes in the work environment and education system. Through its Center for Teaching and Learning Support, the Institute of Open Distance and e-Learning, School of Education and the East African School for Higher Education Studies and Development, the College has designed university wide skills improvement short courses for developing other university staff's skills in conventional and open, distance and eLearning pedagogy. "Academic staff in the University are recruited after attaining either a first or second class upper degree in their respective disciplines, they do not have skills for teaching or passing on knowledge to others either conventionally or through distance education, and so they must be retooled". The training received is instrumental in curriculum development, review and implementation and student support.

The College, is championing the development and nurturing of online/blended learning approaches. Through the Distance Education Leapfrogging Project (DELFP), coordinated by Prof. Muyinda and funded by NORAD under its NORHED programme, the College has developed two pioneer online learning programmes at Bachelors (Bachelor of Youth Development Work) and Masters (Masters of Instructional Design and Technology) levels. "The Bachelor of Youth Development Work programme is a very critical program which develops professionals who work with young people", said Prof. Muyinda. The programme was launched by the President of the Republic of Uganda, with a selfie photo, at the recently concluded Commonwealth Youth Ministers Meeting at Munyonyo, Kampala. Young people are about 78% of the population of Uganda hence need special programming through a professional staff that understands their needs and aspirations. Under this programme, we are looking out at how to program for young people and the bachelor of youth development work is helping in the development of programmes targeting young people, hence responding to the changes in society through curriculum development", he said. He added that this programme is underpinned by Commonwealth Youth Secretariat youth programming framework and is developed as an online or blended learning programme to develop professional youth workers and enable retooling of persons working with young people in the field but with no professional training in youth work. This programme is currently

taught only at Makerere University in Africa.

Muyinda explained that the College also introduced an online/blended learning Master of Instruction Design and Technology programme to produce persons who can teach and train with technology, manage virtual education and training, research in technology mediated education and develop and run technology mediated learning businesses. "This program produces graduates who are preparing Uganda and other countries for technology mediated education, training, research and business", Prof. Muyinda said. It is the first of its kind in Africa outside South Africa.

Further, the College, through NORAD support has developed infrastructure and human capacity to lead the development and revision of curricula for 21st Century teaching and learning. With this capacity, the College, using resources from ADB HEST V Project, was able to transform all courses on the Bachelor of Commerce (External) programme into online courses, effectively making this programme a blended learning programme. This capacity too has been used to support other units in the university to integrate e-learning in their conventional curricula. For instance, the College worked with Hospice Africa to develop the online Master in Palliative Care programme. Further, the College has worked with the School of Public Health to transform the Master of Public Health Distance programme into a blended learning programme.

Still on the vision of aligning curriculum to meet 21st work needs, the College of Education and External Studies in partnership with the Directorate of Research and Graduate Training is coordinating a project titled: Partnership for Enhanced and Blended Learning (PEBL). PEBL aims of sharing the scarce academic resources amongst East African universities through blended learning. PEBL, a project funded by the DfID under the SPHEIR programme, is a consortium consisting of six partner universities, namely: Makerere University, Strathmore University, Kenyatta University, University of Rwanda, Open University of Tanzania and State University of Zanzibar and 18 participating universities in East Africa. The Association of Commonwealth Universities is the Lead Agency in the PEBL project. "Each of the six partner universities competed and won to develop one commonly demanded course across East Africa for development and offering as a blended learning course to the 18 participating and 6 partner universities who eventually transfer the credit gained by each student into their respective programmes", Muyinda said. This way the scarce expertise is shared in the universities through blended learning. For example, in Makerere University, we are developing the course, Research Methodology and Design for Business, as a blended learning course for sharing and credit transfer across the partner and participating universities "he added.

Through its Center for Teaching and Learning Support, the College has developed curricula for Early Childhood Development teacher training institutions. The Ministry of Education and Sport has indeed charged the College with the responsibility of being an examining body for all ECD teacher training institutions.

On the front of putting emphasis on the girl child education, Muyinda said, Makerere University continues to implement the affirmative action of awarding 1.5 points to every woman joining the university and ensuring gender balance in all activities. Further, the College, through its Department of Adult and Community Education and Center for Lifelong Learning, is implementing a project titled Love Bint funded by Love Bint International. Love Bint aims at keeping the girl child in school through the training and provision of reusable sanitary towels. "We realized that one of the major challenges that stop girls from completing school is lack of sanitary pads, so Mr. Joseph Watuleke wrote a proposal of partnership with Love Bint International to promote skills development in communities towards manufacturing of low cost reusable sanitary towel", Muyinda said.

As rightly stated that education is the key to success, the National Planning Authority Vision 2040 realised it as one of the key drivers to economic transformation and development and articulated strategic visions for the pillar on Education and Literacy.

As a government entity, Makerere University, through the College of Education and External Studies, has put in place several strides to ensure that the intended Vision 2020 goals on Education and Literacy are achieved. The College is achieving the strides through its three schools – the School of Distance and Lifelong Learning, School of Education, and East African School for Higher Education Studies and Development; two institutes – the Institute of Open, Distance and e-Learning and Institute of Educational Research and two centers – the Center for Lifelong Learning and Center for Teaching and Learning Support.

Prof. Paul Birevu Muyinda, the Deputy Principal of the College of Education and External Studies, said the College is working tirelessly to ensure realization of the Vision 2040 particularly on Education and Literacy pillar through different strategies.

According to Prof. Muyinda, Government under the Vision 2040, highlighted a number of visions under the Education and Literacy pillar that it wants to achieve come 2040. These are: i) UPE and USE becoming a basic human right and being consolidated as basic education; ii) primary education retaining seven years and secondary education reducing to four years with emphasis being put on character formation and talent identification; iii) developing all Government supported tertiary education into skills development; iv) introducing a national service to promote work ethics, patriotism with emphasis to practical skills, aptitude and moral values; v) undergraduate courses having a full year of internship; vi) having education curriculum instruction and examination revised to align with changes in the work environment and education system; and vii) putting emphasis on the girl child education.

Towards UPE and USE becoming a basic human right, Prof. Muyinda said this cannot be achieved without quality and competent teachers. "My College is emphasizing the need to train more quality teachers to be able to take on the mantle of the many students that will ensue when UPE and USE are made a human right", he said. "We are admitting many teacher trainees both at under graduate, graduate and even PhD levels. For example, this year alone, our first year class of Bachelor of Arts with Education (BAE), has over 1000 teacher trainees. For the Bachelor of Science with Education (BSE), we have admitted over 600 teacher trainees. The BAE and BSE admit pre-service teacher trainers, that is, students coming right from Senior Six. In addition to the pre-service teacher trainees, the College runs a programme for in-service teacher training, the Bachelor of Education External (B.Ed). "The B.Ed programme is a distance education programme to which we admit Grade Five teacher diploma holders", said Prof. Muyinda. The programme has 600 positions for admission of fresh men and women. The in-service