



MINISTRY OF ICT AND NATIONAL GUIDANCE

Turning the Uganda Institute of Information and
Communications Technology (UICT) into a One-
Stop Digital Skilling Centre of Excellence

BY

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MINISTER OF INFORMATION AND COMMUNICATIONS
TECHNOLOGY

AT

The Weekly Press Conference

Hon Minister of State for ICT,
Permanent Secretary,
Staff of Ministry of ICT and its Agencies,
ICT Fraternity,
The Press,
Ladies and Gentlemen

It is with great pleasure that I am before you once again to talk about the country's progress and plans for the country to thrive in the Digital Economy. This time I am going to talk about the Digital skilling in the country.

1 What is UICT

Uganda Institute of Information and Communications Technology (UICT) is a Public Tertiary Institution established by Statutory Instrument No. 79 of October 2005 and subject to the Universities and Other Tertiary Institutions Act 2001 as amended 2006.

The Institute's mandate is to provide high quality market-driven skills-based training, research, innovation, pre-incubation and consultancy that support a knowledge society. The Ministry of ICT and National Guidance supervises UICT and is spearheading the transformation of the Institute into a Centre of Excellence in ICT skills-based training/learning, research, innovation, pre-incubation and consultancy.

In order to holistically deliver its mandate, the Institute developed a Strategic plan 2016/2017-2020/21 and Master Plan 2016/2017-2025/26 whose strategic direction is to amongst others:

- a) To design and deliver market and demand driven skills-based, vocational and technical ICT training
- b) To enhance ICT knowledge transformation, development and utilization through applied research, innovation, pre-incubation and consulting services
- c) To increase partnerships, collaborations and networks with public and private Institutions to support and leverage of resources in delivery of market driven training programs and innovations

2 Achievements over the last five years

2.1 Foundational Infrastructure, Systems and Human Resources

The Institute has made commendable gains in framing the foundation during the past five (5) years, amongst others including the following:

Infrastructure

- a) Facelift and Rehabilitation of the Classroom Block to provide a conducive environment for teaching, learning and testing;
- b) Rehabilitation of Hostel building facility for accommodation with capacity of 156 students when maintaining Social Distancing;
- c) Setup and operationalized five (5) specialized labs (Multimedia, electrical, electronics, optical and a Testing lab). The Labs are being used to provide practical skills
- d) Clustered environment with SAN storage and NAS backup
- e) Internet: 15 Mbps Fibre
- f) Setup WIFI hotspots available throughout the Institute with separate VLANs for staff and students aimed at separating the traffic
- g) Firewall and content Filter for security and safety
- h) All buildings connected via optical fibre
- i) Laboratories equipped with PCs and projectors

Systems

- a) Developed and operationalized the UICT Learning Management System (LMS) called eCampus);
- b) Operationalized Academic Information Management System (AIMS) starting with six (6) modules rolled (admissions, registration, results management, program course manager, ID system & financial modules) – AIMS was developed with the support National ICT Initiatives Support Programme (NIISP);
- c) In collaboration with the MoICT & NG, acquired, scale-up, acquire, commercialize, maintain and support the Caucus Anywhere Innovation; a robust online collaboration platform built to meet today’s heightened need for access channels that enable secure “anytime” and “anywhere access demands for online education, workplace and meeting engagements. The Caucus Anywhere System has been integrated into the eCampus LMS of UICT. This is the Ugandan ZOOM and was developed under the auspices of the NIISP.

2.2 Human Resources

The Institute has acquired a total work force of forty-one (41) full time, seasoned, competent, experienced staff with requisite qualifications ranging from first Degree to PhD holders and professional certifications to facilitate training and learning but also transformation of the Institute into a center of Excellence. The Institute uses industry expertise to supplement the existing permanent capacity.

In realizing its mission, the Institute is implementing an integrated and innovative people-centered services that foster attraction, retention and development of an engaged, rewarded, motivated, healthy and effective workforce supporting the strategic direction of the Institute.

2.3 ICT Skills Training, Learning and Assessment

The institute being a specialized training center offers a pipeline of ICT skills training ranging from: Basic digital literacy skills, special skills, professional skills and expert skills aimed at bridging; the (i) Ugandan digital divide, (ii) the low ICT critical mass ready work force and (iii) the gap in job creation and inadequacies in the ICT workforce.

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Formal education: Certificate programs under the Business Technical Vocation Education (BTVET) & UICT diploma programs for A-Level entrants as per the NCHE minimum entry requirements are being delivered.

Informal Education: the institute is also training groups of citizens who are very good at practice but did not attain formal education qualifications and need to understand and gain professional proficiency in their world of work to improve quality of service delivery and job returns (livelihood) .The institute has trained for example juwakalii’s (computer systems maintenance , TV & radio repairs, phone repairs e.tc), market vendors, tailors among others. Such trainings are customized to particular competencies of a group and most times the mode of delivery is localized or customized.

ICT Retooling training programs: in order to bridge the ICT skills gaps in various industries, UICT provides retooling programs to take care of emerging trends.

- a) The UPDF have been trained in microwave and satellite technologies,

- b) Secondary school teachers have been trained in the application of ICTs in pedagogy,
- c) MTN& UPDF have been trained in Fiber Optic and Copper Installation & Testing.

Specialized professional short course training programs: The institute offers professional certification programs in the areas of : ITU- Microsoft unlimited potential, International computer driving licence (ICDL), CCNA, CISCO, Microsoft Cloud Architect, Microsoft Artificial Intelligence, Microsoft Dynamics , IT Support & Help Desk Certifications, Security Testing, Information Security, Data Analytics, Business Intelligence (BI), Certificate in Videography, Cyber Security, Fibre Optical Installation, IT Audit, E-Governance, E-System Intelligence, Block Chain Technology, Big data Analytics, CCTV Training.

Student centered approach to skills training/Learning: emphasis is placed on building the “know how skills” where the students learn by doing through real life environment or by use of computer simulations, gamifications and other tools, student exchange programs, student field attachment program (internship, project attachments, industrial training and trainee programs). This significantly builds: (a) the learners potential in terms of cognitive, sensorimotor, socio-emotional, etc.), (b) academic technical content, (c) generic competencies, (d) situational competencies, (e) context/context and Situations of daily life/ of working life.

The following are the statistics for the courses delivered over a period of five years’

ACADEMIC YEAR	2016/2017	2017/2018	2018/2019	2019/2020	2020/21
Diploma	1,290	1,070	895	763	582
Certificates	104	159	89	126	82
Specialized short course certifications	195	264	463	769	1,015
Total	1,589	1,493	1,447	1,658	1679

There has been an increase in professional short courses to increase on the practical, market and skills-driven focus.

2.4 Standardization and Curriculum Review

2.4.1 Standardization

The institute developed a standard skills-based competency guideline that emphasizes “Know-how Assessment “where: course work and examinations have practical exams.

2.4.2 Curriculum Review

The curriculum has been periodically reviewed to make is more learner centred; promote participation, experimentation, and collaborative learning. The review of the curriculum focused aligning the courses to the evolving market needs and emerging trends.

The process of curriculum review is participative and involves consultations with different stakeholders including the ICT Industry, other educators, students, alumni and prospective employers and entrepreneurs.

3 Focus Areas and Future Plans

- a) ICT Technical and Vocational training is the core focus of UICT as it plays a critical role in national growth and development.
- b) UICT will direct its energies on orientation of ICT Skills training towards the world of work through curriculum that provides for acquisition of employable skills.

- c) To position UICT to be able respond to the diverse training needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods.

To achieve the focus areas, UICT has the following plans.

3.1 Strengthening the environment and capacity to delivery equitable digital skilling

The Institute with support from Government and other Partners is planning to the following:

- a) Establishment of virtual enabled specialized laboratories to provide equal opportunity and accessibility to the students that are remotely located in periphery areas of Uganda.
- b) Establishment of 4IR labs with latest equipment and software such as 3D printers, testing tools for 5G design, new drone technology, nano-technology
- c) Making all classrooms Digitally enabled through provision of classroom technology to ensure improved virtual and physical delivery of teaching and learning;
- d) Provision of ICT skills training and equipment to Vocational Institutions in the country to facilitate delivery of their vocational programmes.

3.2 Short/Professional Courses

The Institute has identified and commenced developing curriculum and courses in the areas given below. Where feasible, the courses shall be delivered in collaboration partners, other Government Institutions, International players. The rationale is to position the graduates to create jobs for themselves or easily be absorbed in the industry, alignment to upcoming initiatives such as the ICT Innovation Hub, emerging technologies and improving service delivery.

The following are the target areas:

Telecommunications

- a) **Radio Frequency Technicians Course:** Targeting Telecom companies, media houses, Government Technicians, NGOs;
- b) **Radio, Broadcasting and Multi-Media Production and Programming:** Targeting Media Houses, Sound, Video Producers artists;
- c) **Mobile Telephone Repair and Mobile Programming (e.g. Android and IOS):** Targeting telecom companies, phone technicians, MSMEs. programmers, entrepreneurs and innovators;
- d) **Networking, Switching and Smart Office and Home Networks and Technologies:** Targeting Engineers, network infrastructure managers, Office/Home designers, architects and engineers;
- e) **Spectrum Management, Embedded Systems, Mobile Communications Networks courses:** Targeting Regulators, Policymakers, Representatives from academia and international organizations working on regulatory or policy issues, Engineers, managers, analysts, individuals with either technical and non-technical backgrounds
- f) **Digital and Media Communication Course:** Targeting Government Communications Officers (GCOFs), Content developers, Media houses

ICT and e-Government

- a) **Chief Information Officer (CIO) Course:** designed to equip aspiring or new CIOs with the skills, knowledge and mindset needed to be effective in the move from operational to strategic IT

- b) **Electronic Government (e-Government) Course** aimed at enhancing participants knowledge and their role in supporting the delivery of E-Government and Digital Transformation to drive efficiencies and deliver Citizen Centric services (e.g. e-Procurement, e-Tax, Human Capital Management, Financial Management Information Systems, etc.): Targeting Technologist New to Government, Business Process and Quality management professionals; Finance Managers, Customer Service Managers, Policy Writers, Marketing & Communications Specialists, Human Resource staff, Business Owners;
- c) **Enterprise Resource Planning Systems course** to equip participants with practical knowledge that would help you to address real world business problems associated with ERP usage and implementation: Targeting solution developers, application consultants, business process owners / power users, etc.
- d) **Data Science and Analytics Course** overview of what data science is, how it works, and what it can be used to do: Targeting working adults employed in sectors that require expertise in Data Science such as government, banking, insurance, telecommunications, manufacturing, and retail;
- e) **Emerging Technologies Courses** including the utilization of the following technologies Artificial Intelligence (AI), Augmented. Virtual and Mixed Reality Professional, Cloud and Virtualization, Internet of Things (IOT), Big Data, Blockchain and DLT Solutions, Machine Learning, 3D Printing, etc. and how they can assist in different sectors including Case Studies: Targeting Solution Developers, Policy makers, Specialized professionals (Health, Engineering, Education, Agriculture, ICT etc.);
- f) **Cyber Security Course** aimed at equipping participants with knowledge and skills to develop and manage an Information Security Program, perform business impact analysis, and carry out disaster recovery testing: Targeting prospective Cyber Security professionals, Solution developers, ICT Managers, business Leaders and professionals, employees, individuals using digital services;
- g) **Software Engineering and Solutions Development** including Web Technologies to facilitate the understanding and application of best practices by participants: Targeting prospective Software Engineers, Data Engineers, Data Scientists, Project Managers, Software Developers and Web Developers
- h) **Computer Installation, Repair and Maintenance Course:** Targeting computer technicians and systems administrators

Management, Policy and Regulatory Area

- a) **ICT and the Law Course** to equip participants knowledge and skills of national, regional and international regulatory and policy environment that regulates electronic transactions and activity in digital space: Targeting Advocates, Academia, Police and law enforcement agencies, Civil Society actors/activists, Government officials, Corporate enterprises, Solution developers, ICT officers, Innovators and entrepreneurs, Application Consultants, etc
- b) **ICT for Non-ICT Personnel Course** (e.g. health, agriculture, justice, etc.): Targeting cadres other than those in the mainstream ICT profession
- c) **ICT for Teachers and in Education Course:** Targeting the education sector
- d) **ICT Practitioners and testing Course** to preparation and test participants and attest that they have the competence and are ready to be certified to practice Information and Communications Technology in Uganda: Targeting upcoming ICT professionals, Academia, other professionals that intend to practice ICT
- e) **ICT for Persons Living with Disabilities Courses:** Targeting persons living with disabilities, and Persons carrying out education, rehabilitation and training of persons with disabilities

- f) **Special Interest Group Digital Literacy Courses** (Women, Elderly, Persons living with disabilities, etc.):
- g) **ICT Induction and Refresher Courses:** Targeting government, private sector, NGO officials

Innovation and Entrepreneurship

- a) **Innovation and Technology Management, Design Thinking, Entrepreneurship, Digital Marketing Courses:** Targeting Innovators, Upcoming Entrepreneurs, Startups and SME's

Life Ready Skills

- a) **Workplace Learning and Career Guidance Course:** targeting students and working officers

Professionalization of the ICT workforce (UIC as the LDC)

The MoICT & NG is working with the Institute to develop an ICT professional's quality assurance framework to enhance quality, adequacy, professional and relevance of ICT skills to support the digital transformation programme agenda to support efficient and effective service delivery at all sectors for improved growth of the Country. Key prioritized intervention areas include

- a) Establishment of current stock and quality of ICT competencies in the country;
- b) Institutionalize capacity building of ICT cadres in Government;
- c) Establishment of a sustainable ICT training program for Citizens;
- d) Implementation of ICT certifications and accreditations;
- e) Development and implementation of ICT training curriculum at all levels in education in partnership with the MoICT & NG and MoES
- f) Establishment of a mechanism for joint planning and ICT internship between academia and the industry.

3.3 Applied, Research, Innovation, Pre-incubation and Consulting Services

3.3.1 Applied Research, Innovation and Pre-Incubation

The Institute is focusing on conducting Applied Research, Innovation and Incubation to identify and find solutions for immediate problems facing society, government or an industrial/business organization.

Some of the areas include but are not limited to the following:

- a) Applied research to improve agricultural crop production using ICT;
- b) Applied research to test pedagogic processes in order to discover the best teaching and learning methods through the use of ICT;
- c) Applied research to improve workplace efficiency and organizational policies through ICT;
- d) Applied research to understand the patterns and behavioral characteristics of epidemics.

3.4 Consultancy Services

The Institute is focusing on fully operationalize the consulting arm to undertake such services:

- a) Workforce Digital Skills Assessment and provide organizations with a well-grounded position of the digital capabilities of its employees to enable the organizations thrive in a Digital Economy;
- b) Development of Data Products that are meant to provide organizations and persons with required knowledge, for whatever purpose, be it making decisions, building personalized products, or detecting fraud;

- c) ICT horizon scanning to aid strategic planning, policy making and decision making.

3.5 Partnerships

The Institute in achieving its objectives is going to scale up and strengthen partnerships with Government, Industry, other Education Institutions, the Community and Internal stakeholders with a view of:

- a) Leveraging the skills, knowledge of the Industry in curriculum development and delivery as well as applied research and innovation;
- b) Prioritize the needs of the society in terms of digital skills training, research and innovation;
- c) Designing and delivering apprenticeship programs through which students are expected to earn while they learn;
- d) Enhance community outreach programmes and revitalize Institutes open days;
- e) Leveraging on International and local stakeholders for capacity building, infrastructure and technical support

Finally, I wish to end my presentation by reassuring citizens that Government through My Ministry, Ministry of Education and Sports, other ICT Sector Institutions, the Industry, communities and development partners are committed to building future digital skills and innovation to facilitate the attainment of a Digital Economy through turning the Uganda Institute of Information and Communications Technology (UICT) into a One-Stop Digital Skilling Centre of Excellence.

FOR GOD AND MY COUNTRY

Hon Nabakooba Nalule Judith (MP)

Minister of ICT & NG

REPUBLIC OF UGANDA