MAKERERE UNIVERSITY

COLLEGE OF COMPUTING AND INFORMATION SCIENCES (CoCIS)

The Prospectus

2023-2024

WHAT WE DO AND OFFER

VISION STATEMENT

To be a thought leader of knowledge generation for societal transformation and development.

MISSION STATEMENT

To provide first class teaching, research and services in computing and information sciences responsive to national and international needs.

VALUES

- Commitment (Efficiency & Effectiveness)
- Transparency (Honesty & Integrity)
- Vibrancy (Enjoyment, Healthy Environment & Sporting Life)
- Respect (Friendly & Gender Sensitivity)
- Responsiveness

CONTENTS

1.0

COLLEGE FORMATION AND UNITS

The College of Computing and Information Sciences (CoCIS) was established by the University Council on 1st February 2011 through the merger of the Faculty of Computing and Informatics Technology (CIT) and the East African School of Library and Information Sciences (EASLIS).

The College has two schools – The School of Computing and Informatics Technology (SCIT) and the East African School of Library and Information Sciences (EASLIS) SCIT comprises four departments namely; Computer Science, Networks, Information Technology and the department of Information Systems. EASLIS has two departments namely; the Department of Records and Archives Management and the Department of Library Sciences.

The College has several service departments that focus on; ICT Support Services; Innovations and Software Development; Finance; Registry; Research; Human Resource; International/ Corporate/Public Relations and Quality Assurance. The state-of-the-art infrastructure include lecture theaters, giant computers laboratories specialized computer laboratories and college libraries. Its three buildings can accommodate over 10,000 students in one sitting.

Table 1: Research Centres and Labs

	Centre /Lab	Legal Status	Focus	Target	Partners
1	Center for Innovations and Professional Skills Development (CiPSD)	Established by the University Council through the merger of the Faculty of Computing and Informatics Technology (CIT) and the East African School of Library and Information Sciences (EASLIS).	Offering training that is responsive to the needs of the society through tailoring courses towards what the industry demands, assist government and other organizations to build human capacity with various ICT Skills &Incubation of new ideas, as well as, nurture new technology-based businesses.	Academicians, University Students, Primary and Secondary School finalists, Business entities and Members of the General Public.	The Cisco Networking Academy, Huawei Technologies Uganda Co. LTD for the ICT Academy & Seeds for the Future Programmes. Crossroads Multimedia Company LT, 4) The Evbab Project Partners.The Amity University in India.
2	Cisco Academy Support Centre	CoCIS was approved as a Regional Cisco Networking Academy under a partnership with Cisco Systems Inc in 2004	Overseeing the Cisco Programmes in Uganda and ensure that Local Academies operate in line with the CISCO Quality Assurance plan.	Cisco academies, students, public universities, primary and secondary schools, business entities	Cisco Systems Inc
3	Testing Centre	CoCIS is an approved and authorized Test Center for PearsonVue, Prometric, and ICDL Africa	Administer exams for leading IT and Non-IT International Certifications such as the 200-301 CCNA, CCNP 300-101: ROUTE, Implementing Cisco IP Routing. Exam 300-115: SWITCH Implementing Cisco IP Switched Networks CISA, ISACA /PSI exams GMAT and many more		Global network of quality test centers including PearsonVue, Prometric, ISACA/ PSI IC3 & ICDL Africa
4	Huawei ICT Academy	Huawei signed an agreement with Makerere University to establish an ICT academy in Uganda	Skilling youth in ICT Short courses such as AI, Machine Learning and Big Data, CCTV operations and maintenance, HCIA, IOT, Cyber Security and to offer free Certification to students in mostly HCIA	Students and the General Public	Huawei Technologies Uganda
5	EvBAB Centre	Government of India signed an MoU with the Government of Uganda	Offering Tele-education and telemedicine services from India to African countries through a specially developed web-based platform hosting two separate portals.	Education institutions in Africa and India	Government of Uganda, Makerere University, Government of India and Indian Universities

6	Makerere Innovation and Incubation Centre (MIIC)	Partners of the National ICT Initiatives Support Program(NIISP) by GoU for startup and Innovations in public and private sectors.	Incubating technology-enabled ideas in all sectors of the Ugandan Economy	Early and later stage entrepreneurs seeking for product, business and market development support.	Under Prof. Hugh Cameron's leadership and our Software Business Incubation programme, the centre has incubated over 150 startups, 15 of which have been investible since 2010. Many spinoffs include Kampala startup hubs such as Hive Colab, Mobile Monday, Outbox, Mara Launchpad, and Grameen Applab. Other accomplishments comprise two published refereed conference articles on business incubation at Makerere university, Global Business Labs 2011–2016 (Inter-college collaboration: CoBAMS-CoCIS (Global Business Labs), CEDAT-CoCIS (Software Business incubation), Resilient Africa Network (incubation), Thought Works (Uganda) 2012–2014 and UCC 2013–2014 (training). The Current Interns are working in partnership with Village Capital, Cloud flight, DFCU Bank, Afri Labs, Digital Africa, MoSTI, MoICT and NG, STARTUP UGANDA, Afri Labs, VGC Group, FROLYNK, STARTUP AFRICA ROADTRIP, Binary Garage
7	The Artificial Intelligence and Data Science lab	Formed by Makerere University	advancing artificial intelligence research to solve real-world challenges.		
8	Wireless Networks and System Security		develop networked systems and applications that will ease access to communication and mobile wireless services thus contributing to the (Uganda's) national development goals.		

9	The Center of Excellency in Software Engineering and Software Systems	operated by Makerere University and center of Excellency in software engineering and software systems	Improving the quality of software systems in Africa by carrying out research in best software engineering approaches the fit the low resource settings.	academics in Software Engineering, Cyber Security and Information Technology.	companies and government agencies
10	Health Informatics Research Group	Launched by the MoH to support the implementation of the Uganda eHealth Policy and Strategy through undertaking research and development (provides the research arm) for the MoH	Connecting Health Informatics solutions to all health services consumers in Uganda and beyond.	health institutions, research & higher education institutions both local and international,	School of Medicine, School of Computing and Information Technology, and School of Public Health. WHO, UNICEF, IDI, UVR, CDC
11	Informatics and visualization research group		efficient and effective creation, management and utilization of information using ICT in the modern world.		Departments in Computer science, Networks (Software Engineering and data Communications), Information technology. members from the Faculties of Medicine and Science.
12	Air quality monitoring (AIRQO)	Founded in 2015 at Makerere University to close the gaps in air quality monitoring across Africa.	Collecting data to inform public policies on reducing, containing and better management of air pollution and its associated health risks	Governments and urban authorities	Google.org, UN Environment, World Resources Centre, WEHUBIT, World Bank Group, NEMA, KCCA, AFRIQAIR, University of Colorado, National Research foundation etc.
13	WIMEA - ICT	It is a cooperation between Makerere University, Dar es Salaam Institute of Technology , the University of Juba and the Geophysical Institute of the University of Bergen.	Improve the accuracy of and access to weather information by the communities in the East African region through suitable ICTs (for increased productivity	Partner institutions	Makerere University (host institution), Dar es Salaam Institute of Technology (DIT) in Tanzania, the University of Juba in South Sudan and the Geophysical Institute of the University of Bergen.

14	The Smart classroom	The International Centre for Higher Education Innovation under the auspices of (UNESCO-ICHEI) set out to support the higher education system, improve education quality, and promote equity for education in the developing world. Joined by the Southern University of Science and Technology (SUSTech) and CreateView UNESCO ICHEI works with Makerere University to collaborative establish the Smart Classroom on its campus.	bring together the Smart Classroom functions to the university education system to facilitate advanced learning and cognition, as well as cooperation and participation.	Universities in East Africa and beyond	Chinese education technology companies, the UNESCO International Centre for Higher Education Innovation (ICHEI) and China's International Institute of Online Education) under the auspices of UNESCO.
15	Geospatial and Computational	Conducts critical research in GIS, spatial analysis, nanotechnological aspects, spatiotemporal areas and computational areas	Focus is on geospatial knowledge and technology	Uganda and beyond.	KTH-Sweden, UCC and partner institutions
16	Internet of Things (IoT)	Conducts critical research in Internet of Things (IoT) and Sensor Technology.	Focus is on IoT research and training	Uganda and beyond	China and partner institutions

2.0
STAFFING

The college has a total staffing of about 150. Eighty are academic including 11 visiting and local professors. Over 35% of these teaching staff hold doctorates, while many are in advanced stages of completing their PhD studies.

Table 2: CoCIS Staff statistics

NO	RANK	MALE	FEMALE	TOTAL
1	Professors	3	0	3
2	Associate Professors	4	3	7
3	Senior Lecturer	2	3	5
4	Lecturer	17	15	32
5	Assistant Lecturer	21	15	36
6	Administrative	8	8	16
7	Support (Permanent)	16	17	33
8	Support (Contract)	9	7	16
	TOTAL	**80**	**68**	**148**

3.0

RESEARCH AND INNOVATIONS

In addition to teaching, staff and students through their research groups conduct cutting edge research and have come up with products and services that have impacted on livelihoods in deferent sectors of agriculture, health, education, industry and business. Main research areas software and enterprise engineering, development informatics, artificial intelligence, networks and systems security, ICT for Education, mobile computing and communication, documentary heritage, records management, information policy and publishing, knowledge management and ICTs for Libraries.

The college has about 30 running projects including AirQO, Life Health Uganda, Internationalization in Library and Information Science Education, Pathways to Change towards Gender justice in STEM Research In Africa (GeJuSTA), ICT Platform for Pathogen Econony, Predicting Sweet potato sensory Attribution Using Image Analysis, Using Machine Learning for Localised and Targeted Agricultural Advisory to small holder farmers in Uganda, Next Generation Cassava II, Building Luganda Automatic Speech Recognition Models for Agriculture(Google NLP), Drone –Based Agricultural Dataset for Crop Yield Estimation, Helmet Labeling Crops, Lacuna Malaria Datasets, Using health information technology governance and epidemiologic approaches to implement sustainable digital

health systems in central Uganda (PIRA), Adaptive Environment Monitoring Network for East Africa- AdeMNEA and The F.A.T.E of AI African Agriculture, Mobile ELISA and Syndromic Datasets.

Flagship Innovations and Technologies

The First Smart Classroom and Robotics Technology for teaching in Uganda worth over $100,000 launched in September 2022 for recording, broadcasting, and automation of the classroom environment. The Robot undertakes Artificial intelligence functionalities such as speech recognition, identification, photo taking and management of attendance.

Figure 1: College Principal Prof. Tonny Oyana (4th) and Vice Chancellor Prof. Barnabas Nawangwe (5th) and leader of installation team Hassan Adeel display the robotics technology during the launch.

The 'AirQo', one of the innovations spearheaded by Prof. Engineer Bainomugisha, manufactures low-cost air monitors to empower communities to advance air quality management. 100 devices have already been installed in many Ugandan municipalities and in at least 25 cities in 10 African countries including Dar es salaam, Senegal, in Doula Cameroon, and soon will be rolling out to Lagos, Nairobi, and other cities.

Figure 2: AirQo Monitor

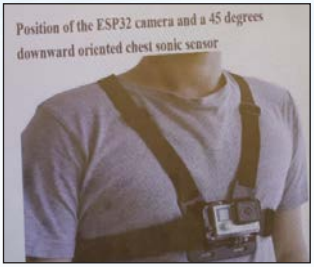
The solar powered sensor technology was introduced by Dr. Julianne Sansa Otim for monitoring and management of bees. The 'smart bee monitor" was designed in the college lab and deployed in the field in December 2022. It enables a farmer to monitor the behavior and health of their bees from the comfort of their home. It uses the internet of things (IoT) technology to monitor the temperature, weight, carbon dioxide, and humidity of the beehive. By delivering the bee sounds, images, and videos, the system can give the farmer notification of pest invasion, disease infestation, disruptions caused by pollution, hive strength, and opportune time to harvest the honey.

Figure 3: PhD student Agatha Turyagenda explaining the smart bee hive technology during AdMNEA AGM

Dr. Joyce Nabende is leading the Artificial Intelligence Lab (AI) has developed AI-based mobile tools to monitor diseases that affect agricultural production in Uganda. A number of technologies that directly answers to both local and international demands have been developed including the Tool for fraud detection in mobile money transactions, Device for the blind to move without human aid, AI app to identify and deter birds from cereal farms and the Boldungu Mobile App for primary children to improve performance in Mathematics.

Students of Networks Department under supervision of Dr. Mary Nsabagwa won the Universities Challenge 2023 with their innovation on Eye for the Blind: The 'Computer vision and sonification for the blind' innovation will save blind people the need to have a human aide all the time. Using artificial intelligence, sensors placed on the chest and toes of a blind person help to know an obstacle. The system gives audio instructions on what to do, which direction to turn, and even tells the person what object is located where within the vicinity

Figure 3: Student displaying the Device for the blind to move without aid



A demonstration of the 'Automated mobile microscopy diagnosis showed how medical lab technicians can be relieved of the burden of overwork. While a lab technician is advised to not exceed 20 samples in a day, this method which involves an app and smartphone attached to a microscope allows for very many samples to be taken and analyzed in a day. Secondly, it allows for easy transmission of the analysis to the doctor wherever they may be.

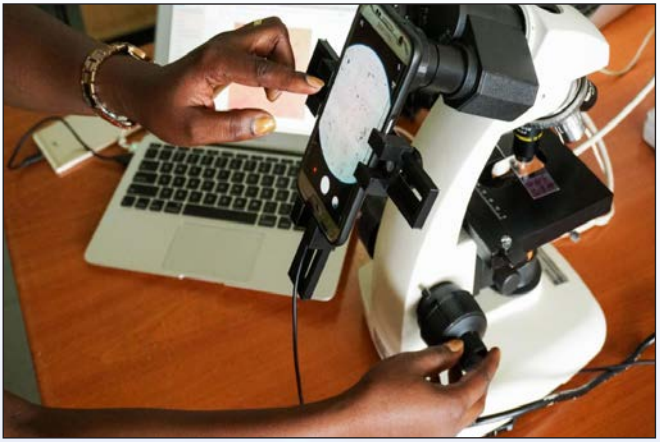


Figure 4: Technology for Automation of diagnosis of Malaria

Figure 5: Dr. Rose Nakasi, a researcher in the Automation of diagnosis of Malaria explaining the technology

The '3D animation walk-through project' will greatly improve the delivery of science concepts in education, and support commercial advertising, architecture, and medical animation for medical sciences training. The innovation also enables virtual shopping from anywhere.

The 'Automated fraud detection in mobile money transaction using machine learning' creates a virtual financial ecosystem, creates fraud groups relying on police information to study the behavior and locations of fraudsters, follow them inside and outside their groups and trap them, among others. Though the system is still being developed, it is already being sought by banks, insurance companies, microfinance, and Saccos to help them deal with the vices of fraud and insider-dealing crimes.

The 'Virtual reality for medical health training for infectious diseases' provides a safe and comprehensive virtual classroom, clinical lab, and medical ward and instructor communication. The system enables an instructor to train many people at a go without the possibility of infecting them. The trainee can learn from anywhere of convenience.

Figure 6: Students demonstrating the Virtual Reality for Medical Health Training

A designed mobile application code-named Boldungu enables primary school pupils enjoy and improve their performance in Mathematics by themselves using a mobile phone to practice and revise different questions. The tool helps learners practice mathematics by providing a collection of questions, answers, and explanations of concepts and methods. The goal is to build confidence, and excellence in Mathematics and unlock dreams.

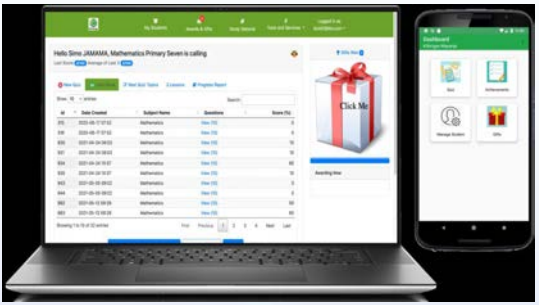


Figure 7: Screen shots of Boldungu Web and Mobile Application

The 'Artificial intelligence-based approach to identify and deter birds from cereal crop farms' is a great Hitech scarecrow that birds cannot get used to and beat. It detects birds at a radius of 500 meters and makes a scary noise of a kite, an eagle, cock, or a human being. The system has a camera, a voice recorder, and a siren. It uses an algorithm to keep changing the noise so that the birds do not get familiar and apply contempt.

4.0

TEACHING AND LEARNING

Figure 8: Undergraduate students during the Makerere 73rd Graduation held in the Freedom Square

CoCIS is committed to delivering excellent services in the area of Computing, Library, Records and Information Sciences and attracts over 2,600 students annually both local and international. Our students have exceptionally done very well at the national and international scene and upon completion the graduates have made immense contribution to the digitalization of government, private institutions and business processes.

The College delivered the best Science student for the 73rd graduation. Sanga Arnold Lukoda of the Bachelor of Information Systems and Technology with a CGPA of 4.85 out of 5.0 who received the recognition convocation award plaque and one million Uganda shillings.

Figure 9: Convocation Chair Dr. Tanga Odoi, Prof. Ezra Suruma forwards the plaque to Sanga Arnold Lukoda

Second year students of B.Sc. Software Engineering won the first prize for the Huawei African Information and Computer Technology (ICT) competition 2021-2022. The team designed a QuickTest Mobile App to diagnose blood diseases mainly HIV/AIDS and Malaria.

Figure 10: The State Minister for Higher Education, Hon. Dr. John Chrysostom Muyingo (2nd L) presents awards to the winning team; Rutanana Arnold, Nakyanzi Catherine and Nsengiyumva Wiberforce at the award ceremony in South Africa. (Courtesy Photo)

A real-time mobile application designed to provide students with an up-to-date minute visualization of the hostel shuttle's location at Makerere University received international recognition in the 2019 World Congress on Undergraduate Research –WCUR for efforts in fighting kidnap. Dubbed 'Shuttle Alert', the application was developed by a team of five undergraduate students of Computer science to cub time wastage by students while waiting for their hostel shuttle to arrive at a particular pick-up point but also reduce on risks such as kidnappers, thugs, con-men who they might find along the way, in case of frustration arising from waiting for shuttles with futility.

4.1 Programmes Offered

Figure 11: A section of the Masters candidates during the 73rd Graduation ceremony

The college offers a total of 29 programmes. Of these, seven are undergraduate, eight masters, six PhD programs, six Post Graduate Diploma programs and two diploma programs as shown in the table below:

Table 3: Programmes offered at CoCIS

Department	Undergraduate Programs	Post Graduate Programs
Information Systems	Bachelor of Information Systems and Technology	Post Graduate Diploma in Information Systems Master of Science in Information Systems PhD in Information Systems
Computer science	BSc in Computer Science	PGD in Computer Science MSc in Computer Science PhD in Computer Science
Networks	B.Sc. Software Engineering B.Sc. Data Communication Networks (Proposed)	M.Sc. Data Comm. and Software Engineering PGD Data Comm. and Software Engineering PhD in Software Engineering
Information Systems	Bachelor of Information Systems and Technology	Master of Information Systems PGD Information Systems PhD in Information Systems
Information Technology		PGD in Information Technology Master of Information Technology Master of governance Technologies and services PhD in Information Technology
Programmes Offered at EASLIS		
Library and Information Science	Bachelor of Library and Information Science Diploma in Library and Information Studies	PhD in Information Science MSc. in Information Science Post Graduate Diploma in Librarianship
Records and Archives Management	Bachelor of Records and Archives Management Diploma in Records and Archives Management	Master of Science in Records and Archives Management

5.0
FEES STRUCTURE

Fees for Undergraduate Programs

Details of the most current tuition fees can be obtained from Academic Registrar's Department located at the Senate Building.

Table 4: Duration of Programme and Tuition fees per year

Programme	Duration	Fees Structure Local Students	International Students
Bachelors of Science in Computer Science	3 years	1,916,303 /=	2,874,454/=
Bachelor of Information Systems and Technology	3 Years	2,116,000/=	3,107,875/=
Bachelor of Science in Software Engineering	4 years	1,977,138/=	3,840,209/=
Bachelor of Library and Information Science	3 Years	1,596,919/=	2,555,070/=
Bachelor of Records and Archives Management	3years	1,596,919/=	3,072,168/=

Source: Mak Academic Registrar's Announcement for 2023/2024 Undergraduate Private Admissions

THE FUNCTIONAL FEES ARE AS FOLLOWS:

(Tuition Fees per Semester in UGX)

(a) Semester One (Ugandans E.A. & S. Sudan Shs.860,954/= (Internationals Shs.1,516,253/=)
(b) Semester Two (Ugandans E.A. & S. Sudan Shs.132,250/= (International Shs.132,250)
(c) National Council for Higher Education Fees (Per Year) Shs.20,000/= for all categories
(d) UNSA Subscription Fee (per year) Shs. 2,000/= for all categories

NB: Internship/Field Attachment Fee of Shs. 100,000/= Per Semester is payable in Year I, Semester I and II for Administrative Costs. S

How to Apply

(i) (a) Application is online for all applicants but diploma/degree holders and internationals will have to submit certified copies of their transcripts and certificates and a passport size photograph to office 315, level 3, senate building.

(b) Other relevant information can be obtained from undergraduate admissions office, level 3, senate building, Makerere University or can be downloaded from our website www.mak.ac.ug.

(ii) Non-refundable application fee of shs. 50,000/= for Ugandans, East African and South Sudan applicants or $75 or equivalent for internationals, UGX.281, 250= plus bank charge of UGX2, 750/= should be paid in any of the banks used by Uganda revenue authority. (URA)

(iii) Candidates who hold grades x, y, z, 7 and 9 of O 'Level results should not apply because they are not eligible for admission.

(iv) Diploma holder applicants who hold class three (3) diploma certificates or pass diplomas are not eligible for admission and therefore should not apply, except where stated in the diploma holders' requirements

2. Makerere University Online Application Portal User Guide

i) Applicants should access the Institution's Admissions URL http:apply.mak.ac.ug
ii) Signup using full name, e-mail and Mobile Number. Please note that your name must be similar to the one on your supporting academic documents for your

application to be considered valid. If you changed your names please go to Senate Building Office 611 with a a deed poll and gazette supporting the name change.

iii) A password will be sent to both your e-mail and mobile number.

iv) The system will prompt you to change the password to the one you can easily remember.

v) To fill a form(all form sections must be filled)the applicant clicks on the APPLY NOW button displayed on the running scheme.

vi) Obtain a pay reference number (PRN) after submitting the application form .

vii) Make a payment at any of the banks used by Uganda Revenue Authority (URA)

3. URA Mobile Money Payment Steps:

i) Dail *272*6# on either Mtn or Airtel

ii) Select option 3-Admission

iii) Select option 3-Pay Fees

iv) Enter reference number obtained from Application portal

v) Details of Application form will be confirmed

vi) Enter PIN to confirm payment

Table 5: Post Graduate Studies tuition fees

Programme	Duration	Fes Structure East Africans and S. Sudan	International Students
PGD in Information Technology	1 year	Shs.5,000,000/=	Shs.12,280,000/=
PGD in Computer Science	1year	Shs.5,000,000/=	Shs.12,750,000/=
PGD in Data Communication and Software Engineering	1Year	Shs.5,000,000/=	Shs.12,901,000/=
PGD in Information Systems	1Year	Shs.5,000,000/=	Shs.11,200,000/=
MSc. in Computer Science	2 years	Shs.5,000,000/=	Shs.12,750,000/=
Master of Information Technology	2years	Shs.5,000,000/=	Shs.12,280,000/=
MSc. in Data Communication and Software Engineering	2years	Shs.6,000,000/=	Shs.15,112,600/=

MSc. in Information Systems	2years	Shs.5,600,000/=	Shs.11,200,000/=
MSc. in Information Science	2yeqrs	Shs.5,000,000/=	Shs. 8,000,000/=
MSc. in Records and Archives Management	2 years	Shs.5,000,000/=	Shs.8,000,000/=

Source: Mak Academic Registrar's Higher Degrees and Postgraduate Diploma Joining Instructions & Fees Structure 2022/2023

Table 6: Fees for Doctoral Degrees by Course work and Dissertation

Programme	Duration	Fees Structure East Africans and S.Sudan	International Students
PhD in Data Communication & Software Engineering	3 years	Shs.7,000,000/=	Shs.10,000,000/=
PhD in Computer Science	3 years	Shs.7,000,000/=	Shs.10,000,000/=
PhD in Information Technology	3 years	Shs.7,000,000/=	Shs.10,000,000/=
PhD in Information Systems	3 years	Shs. 8,000,000	Shs.16,000,000/=
PhD in Information Science	3 years	Shs.7,000,000/=	Shs.10,000,000/=

Source: Mak Academic Registrar's Higher Degrees and Postgraduate Diploma Joining Instructions & Fees Structure 2022/2023

Table 7: Fees for Doctoral Degrees by Research only

School	Duration	Fees Structure East Africans and S.Sudan	International Students
PhD degrees tenable in the School of Computing and Informatics Technology	3 years	Shs. 7,000,000	Shs. 10,000,000
PhD degrees tenable in the East African School of Library and Information Science	3 years	Shs. 7,000,000	Shs. 10,000,000

Source: Mak Academic Registrar's Higher Degrees and Postgraduate Diploma Joining Instructions & Fees Structure 2022/2023

6.0

ACADEMIC PROGRAMMES AND ENTRY REQUIREMENTS TO COCIS

6.1 Undergraduate Programmes and Entry Requirements to SCIT

Figure 12: CoCIS Block 2

To be admitted to any programme, candidates MUST fulfill the general Makerere University entry requirement for the respective under/ Post graduate programmes.

In addition, candidates MUST fulfill the following requirements for programmes in the School of computing and informatics Technology.

1.1 Entry requirements for undergraduate programmes

There are two avenues of admission to undergraduate programmes i.e Direct Entry and Diploma Holders Scheme.

1.1.1 Direct Entry Scheme

- **Bachelor of Science in Computer Science (BSc CSC);**

  The essential subjects are two best of Mathematics, Economics, Entrepreneurship, Geography, Physics, Chemistry, Biology, Agriculture, Technical Drawing. Candidates must have at least a principal pass in math form UACE. Relevant subjects include third better done of Mathematics, Economics, Entrepreneurship, Geography, Physics, Chemistry, Biology, Agriculture, Technical Drawing, Sub-Math is a Desirable Subject.

  Programme Description

  BSc, CS is a three-year programme that equips the student with skills to enable him/her to develop computer-based solutions to existing challenges in society. The students are taught how to design and develop software, to efficiently set-up and manage networks and to develop improved code for the optimal usage of resources. Students are equipped with theoretical and practical skills that will enable them to easily develop new technologies in both current and emerging fields..

  Career Prospects

  Computer scientists work in virtually all kinds of organizations since they are not limited to only computer science or information technology firms. Graduates of BSC, CS can work as programmes, system architects, system analysis, system administrators, data security manages, operational planners or information scientists, database specialists etc. they are also equipped to undertake further studies in areas like MSc, (Comp, Sci) or MCA (Sci), MIT, MIS, MCA, MCM, etc.

- **Bachelor of Information Technology (BIT);**

  The essential subjects are two best done of Mathematics, Physics, Economics, Chemistry, Biology, Geography, Literature, Entrepreneurship, Technical Drawing, Fine Art & Foods and nutrition. Candidates should have at least credits in English

& Mathematics at UCE. Relevant subjects are best done and business processes. It looks at computers/information systems as part of a functioning organization.

Programme Description

BIT trains students how computer hardware and software can best be integrated in organizations to secure high productivity and sustainability. It focuses on how computer systems interact with each other, people and business process. It looks at computers and information systems. They are able to participate in complex IT projects management.

Career Prospects

Information Technology Graduates gain employment as its professionals in fields such as Application System Design, Computer Security or Service Technology. Graduates from this degree are often responsible for selecting and deploying software products appropriate for commercial organizations, software development companies, government departments, telecommunication companies and large computer organizations. The graduates are also well trained in the analysis and design of business processes and information systems. They are able to participate in complex IT projects' management.

- **Bachelor of Science in Software Engineering (BSE);**

The essential subjects are Mathematics or Physics & One better done of Chemistry, Economics, Geography and Biology & Fine Art. Candidates should have at least Principal Pass in either Mathematics or Physics at UACE. Relevant subjects include One better done of Mathematics, Physics, Chemistry, Economics, Geography, Biology & Fine Art. General paper and Sub- Math are Desirable subjects

Programme Description

This programme trains students in analyzing user needs, designing, constructing, testing and maintaining computer applications software. They develop various kinds of software including software for operating systems, mobile devices, network distribution and compliers which convert programs for execution on a computer.

Career Prospects

Possible career prospects include: computer applications software engineers, computer systems software engineers and software managers and risk manager. They work in industries like software development firms, computer manufacturing firms, financial institutions, insurance companies and also provide computer systems design services.

- **Bachelor of Information Systems (BIS);**

The essential subjects are two best done of Mathematics, Economics, Physics, Biology, Chemistry & Geography. Relevant subjects include third best done of all "A level subjects. General paper and sub-Math are Desirable subjects.

Programme Description

This three-year course trains students as information systems specialists in business organization context. It equips students with knowledge and skills for planning, modeling and applying ICT to meet an organization's business equipment stakeholders, events and products. It covers both business and information technology subjects. The business subjects provide business practice framework for information systems development whilst the information technology subjects provide the knowledge and technical skill required to design, build and manage business information systems.

Career Prospects

Information System (IS) graduates are placed to adapt their careers to the evolving workplace and new careers to the evolving workplace and new career opportunities. Some of the roles IS graduates are bale to fill include: Business analyst, Systems analyst, intelligence analyst for key government institutions, Web developer creative internet marketer, systems designer, E-commerce project officer, assistive technology designer, technical support analyst, Bioinformatics analyst, change and transition manager, IS security auditor, IS project manager IS consult, database administrator, technical research officer, business systems consult and IS manger.

1.1.2 Diploma Holders Scheme

- **Bachelor of Information Systems;**

  At least a second class (lower division) Diploma in computer science or any other diploma with business or computing aspects from any recognizes institution.

- **Bachelor of Information Technology;**

  At least second class (lower division) diploma form recognized institution. Candidates who hold a diploma in computer science and information.

  Technology from Makerere university with at least second class (lower division) shall be admitted to second year of Bachelor of information Technology. Candidates who hold a pass class of the same diploma shall be admitted to first year of Bachelor of information Technology.

- **Bachelor of Science in Computer Science;**

  At least second class (lower division) diploma in computer science, Engineering Business studies, information technology, statistics or any other diploma with mathematics, computer science or information technology as one of the subjects. The diploma must be from a recognized institution. Candidates who hold a diploma in computer science and information technology from Makerere University with at least second class (lower division) shall be admitted to second year of bachelor of science in computer science. Candidates who hold a pass class of the diploma shall be admitted to first year of Bachelor of Science in computer science.

- **Bachelor of Science in Software Engineering;**

  At least a second class (lower division) diploma in computer science, engineering, statistics or any other diploma with either mathematics or computer science as one of the subjects from any recognized institution.

- **Diploma in Computer Science and Information Technology**

  At least second class) lower division) diploma from a recognized institution. Certificate holders seeking admission should have passed mathematics and English

with at least a credit and the Uganda certificate of education or its equivalent and should have at least a credit certificate in computer science or related discipline form a recognized institution.

Entry Requirements for Graduate Programmes at SCIT

Figure 13: CoCIS PhD Graduands during the Makerere University 73rd Graduation in the Freedom Square

A) **PhD:**

Candidates must be holders of Master's degree in Computer Science, Information Technology, Information Systems, Software Engineering or any other relevant Master's Degree with evidence of having taken acceptable prerequisite courses in the respective fields.

- *PhD Information Systems*

  A Master's Degree in information systems, information technology or its equivalent.

- *PhD in Computer Science*

  A Master's degree in computer science or closely related field. OR Any Master's degree with evidence of acquisition of sufficient advanced knowledge in Computer science by virtue of research or work.

- *PhD in Software Engineering*

  A Master's Degree in Software Engineering or its equivalent.

- *PhD in Information Technology*

  A Master's Degree in Information Technology, Information Systems or its equivalent.

B. Masters

Candidates must be holders of Bachelor's degree or postgraduate diploma in computer science, information technology. Information systems, software engineering or any other relevant bachelor's degree/ postgraduate diploma with evidence of having taken acceptable prerequisite courses in the respective fields.

a) *Master of Science in Computer Science, Master of Science in Information Systems & Master of Information Technology;*

- A minimum of second class (lower division) undergraduate degree in either, computer science, computer engineering, software engineering, information technology, information systems or a closely related field from a recognized university/ institution

- A postgraduate diploma in either computer science, computer engineering, software engineering, information systems, information technology or a closely related field form a recognized university/ institution.

b) *Master of Science in Data Communications and Software Engineering*

To qualify for admission, a candidate must fulfill the general Makerere university entry requirements for Master's Degree and in addition the candidate must be a holder of either.

- A postgraduate diploma in computer science, software engineering, telecom engineering, computer engineering, electrical and electronics engineering or a closely or closely related field form a recognized university/ institution; or

- A Bachelor's degree in computer science software engineering, telecom engineering, computer engineering, electrical and electronics engineering or a closely related field from recognized university/ institution.

C). PGD:

Candidates must be holders of Bachelors' degree in computer science, information technology, information systems, software, engineering or any other relevant bachelor's degree with evidence of having taken acceptable prerequisite courses in the respective fields.

a) PGD in Computer Science, Information Technology and Information Systems

- A Bachelor's degree in either, computer science, computer engineering, software engineering, information technology and information systems or a closely related field from recognized institution.

b) PGD in Data Communications and Software Engineering

- A Bachelor's degree in either, computer science, software engineering, computer engineering, electrical and electronics engineering or a closely related field form a recognized university/ institution

6.2 Undergraduate programmes and entry requirements to EASLIS

Figure14: CoCIS Block C: The East African School of Library and Information Sciences (EASLIS)

To be admitted to any programme, candidates MUST fulfill the general Makerere University entry requirements for the respective under/ post graduate programmes. In addition, candidates MUST fulfill the following requirements for programmes in the EASLIS.

1.1 Entry requirements for undergraduate programmes.

There are two avenues of admission to undergraduate programmes namely; direct entry and diploma holders' scheme.

1.1.1 Direct Entry Scheme

- *Bachelor of Library and Information Science (BLIS)*

The essential subjects are two best done of ALL A-Level subjects include third best done of ALL A-Level subjects. General paper and Sub-math are desirable subjects.

Programme Description

BLIS students required to undertake research in Document cataloging & classification, analysis of information systems, information & documentation services, media technology management, website development & internet technology, marketing & book trade, electronic publishing and library automation.

In addition to specialist and domain -specific knowledge and skills information professionals need a range of generic and transferable skills including computer and information literacy, communication skills management skills, especially relating to human and financial resources marketing ability; training and mentoring skills and familiarity with research methods. The information professional practices within a specific environment in which ethical, legal, policy and organizational issues need to be understood as a complement to his/her knowledge and skills in information management.

Career Prospects

Library and information science education at EASLIS is oriented towards excellence and professional practice. EASLIS graduates

acquire the knowledge and expertise to design, develop manage and evaluate the delivery of information needs of clients. Through professional education, libraries and other information and to develop programs that will encourage their clients to acquire the skills necessary to effectively seek, locate and use the information they need. The level to which EASLIS graduates have requisite knowledge, skills and attributes depends on their formal qualifications and roles/ they perform. Public and private sector increasingly recognize the need for proper information services which in turn demand knowledge and skilled information provides.

Graduates of library and information sciences have openings as libraries, information offices documentation officers, curators, archivists etc. in libraries resources centres and information centres in governmental departments and parastatals NGOs financial institutions including banks, universities and other tertiary institutions, schools, colleges, printing and publishing houses business and industry, broadcasting, museums and data centres.

- *Bachelor of Records and Archives Management (BRAM)*

The essential subjects are two best done of ALL A-Level subjects include third best done of ALL A-Level subjects. General paper and Sub-math are desirable subjects.

Programme Description

This course trains students in the concepts of records processing and organization, record keeping practices, management of electronic records in contemporary society, office supplies and materials management, records management and the law management of business records paleography and oral history management government information resources and systems records storage and security, digital preservation and management of museums.

The programme prepares its graduates to acquire the knowledge required to ensure accountability transparency and good governance which are the essential foundations of effective public administration.

Career Prospects

This programme provides the necessary theoretical underpinning for successful practice and the opportunity to follow a career in records and archives management.

Records managers are employed to manage in computer science, diploma is secretarial records in any enterprise including, central and studies, diploma in public administration or local government universities banks legal related disciplines from any recognized institution firms, breweries and media companies, cultural may be admitted to the BRAM programme. The organizations, mining companies hospitals applicants should have obtained a credit class Embassies indeed anywhere where qualified diploma.

People are needed to manage records

Archivists are responsible for collecting, organizing and making accessible records adjudged worthy of permanent preservation. These records are maintained in both private and public sector organizations.

In the work place, graduates take on positions such as records manger records officer registry manager information manager knowledge manger, manuscript librarian, curator, archivist and systems administrator.

1.1.2 Diploma Holders Scheme

- *Bachelor of Library and Information Science (BLIS)*

Holders of a diploma in records and archives management, library and information science, information management, information technology, computer science, secretarial studies, public

administration or related disciplines from recognized institution are eligible for admission.

- *Bachelor of Records and Archives Management (BRAM)*

  Holders of a diploma in records and archives management diploma in library and information science, diploma in information management, diploma in information technology, diploma degree in library and/or information science

- *Diploma in Library and Information Studies (DLIS)*

  The candidate must have the Uganda Certificate of Education (UCE) and the Uganda Advanced Certificate of Education (UACE) or its equivalent with at least two principle passes or certificate in library and information studies.

- *Diploma in Records and Archives Management (DRAM)*

  The candidate must have the Uganda Certificate of Education (UCE) and the Uganda Advanced Certificate of Education (UACE) or its equivalent with at least two principle passes in a certificate in library and information studies.

Note: *Those who hold a two-year Diploma i.e., (DLIS/DRAM) can enroll for the Bachelors Programme (BLIS/BRAM) for a period of only two years as opposed to the three years originally. Other diploma entrants as listed above will study for three years.*

Entry requirements for Graduate Programmes to EASLIS

A. PhD:

Candidates must be holders of Master's Degree in Library and /or Information Science from a recognized university and o institutions of higher learning. A Master's Degree in a related field. i.e Publishing, records and Archives management, information science from recognized university or institution of higher learning.

- *PhD in Philosophy in Information Science*

PLANS (PATHWAYS)

The PhD in Information science (PhD) programme will be by course work and dissertation and by research only (thesis). The programme will take a period of the three academic years comprising of six semesters. There will be a coursework and dissertation (Plan) or Research only (thesis – Plan B)

Plan A: Coursework and Dissertation

A student on plan A must accumulate 23 credit units worth of coursework during the first two semesters and must submit a dissertation as a partial fulfillment that shall carry appear on the transcript.

Plan B: Research only (thesis)

A student on Plan B will devote the first year on developing ad defending he research proposal. The remaining two years will be for field work/ data collection, thesis writing and defense. The title of the thesis shall appear on the transcript.

Audit Courses

It may be necessary for candidates; on the advice of the supervisors of the supervision to audit certain courses in order to strengthen their capacity for research in information science. Credits shall not be awarded to such courses.

Admission requirements for Plan A

Admission to the programme under Plan A shall be open to

- Holders of Master of Science in information science (M.Sc.Inf.Sc), Master of Science in Records and Archives Management (M.Sc RAM) or related field from accredited institution with CGPA of 3.5 or equivalent.

Admission requirements for Plan B

Admission to the programme under Plan B shall be pen to

- Holders of Master of Science in information science (M.Sc.Inf.Sc), Master of Science in Records and Archives Management (M.Sc RAM) or

related field from accredited institution with CGPA of 4.0 or equivalent.

- Should have an acceptable concept paper and be registered provisionally for one year.

B. Masters:

• *Master of Science in Information Science*

The MSc. Inf.Sc. Programme is intended for the following people.

- Holders of a Bachelor of Library and Information Science (BLIS), Bachelor of Records and Archives Management (BRAM) or a related field from a recognized institution interested in advancing their career in Library and Information Science.
- Holders of any Bachelor's degree interested in developing a career in library and information science.
- Holders of Postgraduate qualifications interested in advancing/ developing their career in library and information science

PLANS (Pathways)

The MSc. Inf. Sc. will be a fulltime day and evening programme that will be studied for a minimum of two academic years comprising of four semesters.

There will be a coursework and dissertation (Plan A) or Coursework and Project (Plan B). The first two (2) semesters will be devoted to coursework and semester three will take specialization courses. Semester four will be spent on research and dissertation or project writing.

Specializations

The MSc. Inf. Sc will have four areas of specialization:

- Information Organization
- Records and Archives Management
- Publishing and Printing Science
- Information and the Community

Plans

Plan A: Coursework and Dissertation

A student on Plan A must accumulate 60 credit units worth of coursework during the first three semesters and must submit a dissertation as a partial fulfillment that shall carry 10 credit units. The title of the dissertation shall appear on the transcript.

Plan B: Coursework and Project

A student on Plan B must accumulate 60 credit units worth of coursework during the first three semesters and carry out a field-based project and must submit a project as a partial fulfillment that shall carry 10 credits units. Students will also be required to present two seminars in line with their areas of study. The title of the project shall appear on the transcript. Students will choose which plan to follow after taking and passing the required course at the end of the semester.

Course Exemptions

Students with related postgraduate qualifications from recognized institutions will be exempted from certain curses. Creating such exemptions will depend on the candidate's training background. Exemptions will only apply for courses where the candidate obtained at least 60% mark or equivalent. Such students will have their credits transferred to make up for the insufficiency arising out of course exemption. Students who will be exempted but do not have total programme load for this MSc programme will be required to take elective courses to make up for the insufficiency. Students seeking exemptions will have to apply to the Dean EASLIS and will be subjected to an interview to determine their suitability for exemption. The application will include justification of the request and evidence of relevant credentials in support of the request.

7.0
SHORT COURSES OFFERED AT COCIS

Professional Short Courses Offered by the Centre for Innovations and Professional Skills Development (CIPSD)

- ***Certificate in Computer Applications (CCA)***

  This is an introductory course that teaches one how to use a computer and the basic applications used in an office, business, or computing environment.

  Cost: 200,000 UGX Duration: 5 weeks

- ***International Computer Driving License (ICDL)***

  This course equips students with confidence to participate in the global digital society; improves the student's quality of life by gaining a better working knowledge of computers. It is suitable for anyone and is an internationally recognized certification.

  Cost: UGX 1,400,000 Duration: 3 months

- ***Certificate in Geographical Information Systems***

  Students learn to design and develop geographical information systems and understand what captures, stores, analyzes, manages, and presents data that is linked to location.

  Cost: 600,000 UGX Duration: 1 month

- ***IT Essentials***

  PC Hardware and Software curriculum provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level information and communication technology (ICT) professionals. The curriculum covers the fundamentals of PC technology, networking, and security, and also provides an introduction to advanced concepts. Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Hands-on labs and Virtual Laptop and Virtual Desktop learning

tools help students develop critical thinking and complex problem-solving skills. Cisco Packet Tracer simulation-based learning activities promote the exploration of network and networking security concepts and allow students to experiment with network behaviour.

Cost: 450,000 UGX Duration: 6 weeks

- ***Cisco Certified Networking Associate CCNA)***

Studies around the world show a growing demand for information and communication technology (ICT) professionals and a critical shortage of qualified candidates to fill the positions. Innovations such as social networking, cloud computing, e-commerce, web conferencing, and desktop virtualization are changing the way we live, work, play, and learn, and these capabilities are all powered by networks.

The curricula target different student segments based on academic experience, skills, and goals, and accommodate a variety of educational approaches and learning styles to help all students succeed but in the end cover the same content. The students who complete the current CCNA version 7.0 get the requisite skills to sit the industry Composite CCNA Certification Exam and compete for jobs comfortably.

Cost: 700,000 UGX Duration: 6 months

- ***Cisco Certified Networking Professional (CCNP)***

The current CCNP curriculum is divided into two skill sets :

- Advanced routing
- Core networking

This course is the advanced level required of Network Engineers. There is a lot one can do with skills acquired through the CCNP curriculum. Additionally, CoCIS is the only Country's Instructor Training Centre (ITC) in CCNP and we are proud of that achievement .

Cost: 1, 000,000 UGX Duration: 6 months

- ***Microsoft Certified Solutions Associate/ Expert / Microsoft Azure***

Today, cloud computing applications and platforms are rapidly growing across all industries, serving as the IT infrastructure that drives new digital businesses. These platforms and applications have revolutionized the ways in which businesses function, and have made processes easier. In fact, more than 77 percent of businesses today have at least some portions of their computing infrastructure in the cloud. The Centre now offers Microsoft Azure – a cloud computing service operated by Microsoft for application management via Microsoft-managed data centers. It provides software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS) and supports many different programming languages, tools, and frameworks, including both Microsoft-specific and third-party software and systems.

Cost: 700,000 UGX Duration: 2 months/module

- ***CCNA Cyber Security Operations***

CCNA Cyber Ops introduces the core security concepts and skills needed to monitor, detect, analyze and respond to cybercrime, cyberespionage, insider threats, advanced persistent threats, regulatory requirements, and other cybersecurity issues facing organizations. It also validates the day-to-day, tactical knowledge and skills that Security Operations Center (SOC) teams need to detect and respond to cybersecurity threats.
The CyberOps Associate exam and training cover knowledge and skills related to security concepts, security monitoring, host-based analysis, network intrusion analysis, and security policies and procedures.

Cost: 700,000 UGX Duration: 2 months

- ***The Ethical Hacking Course:***

Ethical hacking involves a hacker agreeing with an organization or individual who authorizes the hacker to levy cyber-attacks on a system or network to expose potential vulnerabilities. An ethical hacker is also sometimes

referred to as a white hat hacker. Many depend on ethical hackers to identify weaknesses in their networks, endpoints, devices, or applications. The hacker informs their client as to when they will be attacking the system, as well as the scope of the attack. An ethical hacker operates within the confines of their agreement with their client. They cannot work to discover vulnerabilities and then demand payment to fix them. This is what gray hat hackers do. Ethical hackers are also different from black hat hackers, who hack to harm others or benefit themselves without permission.

Who is best suited for a career in Ethical Hacking?

Ethical hackers are generally experts in programming, cybersecurity, security analysis, and networking infrastructure. Ethical hackers tend to be out-of-the-box thinkers. Many hackers rely on creative means of attack, such as social engineering. Those who are experts within systems, who can easily see flaws within systems, and who love repetitive but creative work (such as quality assurance) are well-suited to working as ethical hackers. Ethical hackers will usually know multiple programming languages and have expertise in a multitude of security tools. A recent graduate might study programming, quality assurance, and systems security to prepare for such a role.

The course includes subjects such as : Introduction to Hacking, Information Gathering, Google Hacking Database, Social Engineering, System Hacking & Security, Sniffers & keyloggers, HoneyPots and many more.

Cost: UGX 700,000 Duration 2 months

- ***Introduction and Advanced Web Development***

This course is designed to start you on a path toward future studies in web development and design, no matter how little experience or technical knowledge you currently have. The web is a very big place, and if you are the typical internet user, you probably visit several websites every day, whether for business, entertainment or education.

By the end of this course, you'll be able to describe the structure and functionality of the world wide web, create dynamic web pages using a combination of HTML, CSS, and JavaScript, apply essential programming language concepts when creating HTML forms, select an appropriate web hosting service, and publish your web pages for the world to see. Finally, you'll be able to develop a working model for creating your own personal or business websites in the future and be fully prepared to take the next step in more advanced web development or design course or specialization.

Cost: 500,000 UGX Duration 2 months

- ***Certificate in Graphics & Image Editing***

The course trains one how to; plan, analyze, design and create visual solutions to communications problems using colour, illustration, photography, animation, and produce all of the business graphics typically used by businesses today. The course takes one through the concept development, digital storytelling, Digital Imaging, developing vector-based illustrations using an industry standard postscript drawing program. Explores the art, craft, technical procedures, and concepts involved in producing successful typographic designs, which is a fundamental component of visual communications. Explores application software, concepts and skills required to design and create screen-based media. One learns how to develop the overall layout and production design of magazines, newspapers, wedding cards, pledge cards, produce pro-motional displays, packaging, and marketing brochures for products and services, design distinctive logos for products and businesses, and develop signage and materials for Internet Web pages, interactive media, and multimedia projects. Students complete the course with a practical project that entails all the modules covered during training.

Cost: 450,000 UGX Duration: 2 months

- ***Oracle***

The College is a member of the Oracle Academy Initiative offering Oracle Certified Associate (OCA). Oracle associates acquire a foundation knowledge that will allow them to keep the Oracle database environment running all the time.

They are able to install, maintain, troubleshoot, and fine-tune the Oracle 11g database with all the newest features the Oracle 11g database offers.

Students learn to validate their skills in keeping an Oracle database environment running at maximum efficiency with the Oracle Certified Associate 11g (OCA 11g) and build a strong foundation in Database administration. Oracle certifications are industry-recognized, sought-after credentials. The entry-level OCA 11g certification demonstrates one's ability to install, maintain, troubleshoot, and fine-tune all aspects of an Oracle database – and is the first step towards more advanced Oracle certifications. OCA covers: Introduction to SQL and Database Administration Fundamentals.

Cost: 800,000 UGX Duration: 3 months

- ***Programming using PYTHON***

This course will provide a gentle introduction to programming using Python for highly motivated students with little or no prior experience in programming automated devices. The course will focus on planning and organizing programs, as well as the grammar of the Python programming language.

Cost: 600,000 UGX Duration: 2 months

- ***LINUX Systems Administration***

This course helps student discover the tools used by System administrators in a Linux environment using one of the three major Linux distribution families (Red Hat, SUSE, Debian/Ubuntu).

Cost: 500,000 UGX Duration: 2 months

- ***3D Computer Animation***

3D Computer Animation is a practice-led course that explores both the theory and practice of digital 3D animation in film, television, games and interactive applications. With new and emerging technologies changing how we make, understand and experience animation, you'll be encouraged to push boundaries and explore the practices of animation from a variety of critical and professional perspectives.

Cost: 500,000 UGX for beginners' stage, 500,000/= for intermediate stage and 600,000/= for the advanced stage (total duration is 7 months and 1 month of internship at crossroads multimedia Ltd)

- ***2D and 3D Motion Graphics***

You will study in our Creative studio, with industry-and professional software such as After effects, Maya, Photoshop and Illustrator mirroring industry practice from the first day of your training.
Get creative in our Creative space complete with the latest industry software and collaboration at Crossroads Animation studio.

Cost: 450,000 UGX Duration: 2 months

- ***Data Analysis and Visualization using PYTHON***

Python is a great language for doing data analysis, primarily because of the fantastic ecosystem of Data-Centric Python Packages. ***Pandas*** is one of those packages, and makes importing and analyzing data much easier. The course delves into:

- ***Exploratory Data Analysis (EDA)***; where EDA is a phenomenon under data analysis used for gaining a better understanding of data aspects like:

– main features of data, variables and relationships that hold between them, identifying which variables are important for a problem, and looking at various exploratory data analysis methods like:

- ***Descriptive Statistics,*** which is a way of giving a brief overview of the dataset we are dealing with, including some measures and features of the sample, grouping data,

- ***ANOVA- Analysis of Variance***, which is a computational method to divide variations in observations set into different components, correlation and correlation methods.

Cost: UGX 400,000 Duration: 4 Weeks

- ***Artificial Intelligence (Machine Learning & Deep Learning) with PYTHON***

This is a hands-on coding course that focuses on Labs and projects. It entails:-

- Implementing a linear regression model using Python and NumPy.
- Building a decision tree classifier for a given dataset using scikit-learn.
- Developing a Convolutional Neural Network (CNN) to classify images using TensorFlow or Keras.
- Training a Recurrent Neural Network (RNN) on a given text dataset to generate new text.
- Implementing a reinforcement learning algorithm to train an agent to play a game.

PROJECTS:

- Image Classification: Building an image classification model using CNNs to classify images from a given dataset.
- Sentiment Analysis: Developing an NLP model to analyze the sentiment of movie reviews using NLTK or SpaCy.
- Autonomous Driving: Implementing a reinforcement learning algorithm to train an autonomous driving agent in a simulated environment.
- Fraud Detection: Building a fraud detection system using supervised learning algorithms to detect fraudulent transactions.

- Chatbot: Developing a conversational AI chatbot using RNNs and NLP techniques.

Cost: UGX 700,000 Duration: 8 Weeks

- *IC3 (Internet Core Competency Certification)*

Digital Literacy certification is a global benchmark for basic computer literacy, including operating systems, hardware, software, and networks. The IC3 certifications test concepts and skills that apply to almost any school or career pathway. IC3 has multiple standards and levels. The current one on offer at the Centre is the Global Standard 6 (GS6) that consists of three exams: Computing Fundamentals, Living Online, and Key Applications.

Cost: UGX 1,400,000 Duration: 3 Months

- *The International Testing Center Under CIPSD:*

The College through the Centre for Innovations and Professional Skills Development is an authorized Global Testing Center. The unit hosts the Pearson VUE, Prometric, and Kryterion as well as ICDL, IC3 and ISACA/ PSI international certification examinations. Individuals from the academia, government and corporate circles with varying disciplines can test their competences by sitting international exams at our testing centre thereby becoming empowered professionals while those who are already Professionals from all over East and Central Africa can recertify their expired international exams at this centre because we are a strong and credible unit with a successful track record of more than twenty years.

The computer-based testing system administers exams for leading IT and non-IT certification exams including Cisco-CCNA & CCNP, Cyber OPS ASSOCIATE, Comp TIA, Citrix, Novel, Microsoft, Oracle, Graduate Management Admission Test (GMAT), National Admissions Test for Law (LNAT) International Computer Driving License (ICDL) Certified Internal Auditor (CIA), Linux, EXIN, JUNIPER, EC, Council, CISA, IC3 and many more.

Certification is very important to your career for you get the recognition you deserve and stand out from the crowd. Come and test with us! The Testing Center is convenient, flexible, secure and has a quiet environment.

If one has queries on how to book for an exam contact the Testing Center Administrator via: zawadi.justine@mak.ac.ug

One can also access our testing partners through different links;

- Prometric online under the link:- http://www.[rometric.com
- Pearson VUE:- http://www.pearsonvue.com,
- ICDL on:- http://www.ecdl.com and
- Kryterion on:- www.kryteriononline.com.

Professional Short Courses Offered at EASLIS

Courses offered by the department of Library and Information Sciences

COURSE TITLE	TARGET PARTICIPANTS	DURATION AND FESS
Government Information and Data Systems for Planning and Management	Middles public servants, socio-economic researchers in private industry	5 days / 500,000/=
Computerized Indexing, Retrieval and Thesarus	Information scientists, record Centre staff, archivists, information analysts	5 days / 500,000/=
Internet Publishing and Web page Design	Publishing staff of book and newspaper publishers, business centres e.t.c	5 days / 400,000/=
Designing and Building Data Banks for Public Agencies	Database administrators, data administrators, systems and software designers, statisticians	5 days / 400,000/=
Acquisition, installation and use of library automation software in small/ medium libraries	Librarians, record managers and registry staff	5 days / 400,000/=
Planning and Managing Information Systems	Corporate executives, directors and assistant directors in government agencies	5 days / 400,000/=
Contingency Planning and Disaster Prevention of Corporate Information System Resources	Corporate information executives, directors of PRS, office supervisors, database administrators.	2 days / 100,000/=

Information Systems Security and Auditing	System and database administrators, information resource managers, auditors and software developers	5 days / 400,000/=
Professional Desktop Publishing	Secretaries, printers and others	5 days / 400,000/=
Web page Design and internet publishing	Publishers, internet enthusiasts and other seeking business, office and leisure applicants of the internet	5 days / 400,000/=
Application of Web 2.0 for Libraries and Information Services	Librarians and other information professionals	5 days / 400,000/=
Database management with MS Access/ Visual	Persons desires of using MS Access and visual basic doe office and business applicants.	5 days / 400,000/=
Using MS Power Point for Teaching, Seminar and Conference Presentations	Academics, researchers, business executive and postgraduate students	3 days/ 250,000/=
Open Access Publishing using DS space		

Courses offered by the Department of Records and Archives Management

COURSE	DURATION	FEES UGX
The Local Government Records Classification Retention Scheme (LGCRS)	One week	400,000/=
Records and Information Security	Two days	100,000/=
Records Management Best Practices Training Course	One week	400,000/=
Basic Records Operations	One week	400,000/=
Electric Records Management	One week	400,000/=
Records Management: A Survival Guide for Information Technology	One day	50,000/=
Health Records Management	One week	400,000/=
Store keeping and Office Management	One week	400,000/=

Records and Office Management	One week	400,000/=
Customized Training	Negotiable	Negotiable

Online Courses Under CISPID

In collaboration with Amity University, the College of Computing and Information Sciences under the Centre for Innovations and Professional Skills Development offers online degree and post graduate degree courses. The online courses offered include:

Course	Duration	Fees per Semester *(There are no additional functional fees)*
Bachelor of Business Administration (BBA)	3 years	1,200,000/=
Bachelor of Arts	3 years	1,200,000/=
Bachelor of Arts Social Work	3 years	1,200,000/=
Bachelor of Commerce	3 years	1,200,000/=
Bachelor of Computer Applications (BCA) *(Mathematics a MUST at 'A' level)	3 years	1,200,000/=

Bachelor in Journalism and Mass Communication	3 years	1,200,000/=
Masters of Arts English	2 years	1,640,000/=
Masters of Arts Economics	2 years	1,640,000/=
Masters of Arts (Public Policy & Governance	2 years	1,640,000/=
Master of social work	2 years	1,640,000/=
Master of Commerce (Financial Management)	2 years	1,640,000/=
Masters in Journalism and Mass Communication	2 years	1,640,000/=
Master of Computer Applications (MCA) *(Mathematics a MUST at 'A' level)	2 years	1,640,000/=
Master of Business Administration (12 Specializations)	2 years	1,640,000/=
Marketing Management, Human Resource, Operations Management, Insurance Management		
Information technology, Entrepreneurship and Leadership,		
Banking Services, Finance &Accounting, Global Financial Markets,		
International Biz, Petroleum & Natural Gas		

ADMISSION REQUIREMENTS:

- **Master's and Postgraduate programmes**
  – The Minimum entry requirement is a Bachelor's degree in any discipline.
- **Bachelor's programmes**
  – The Minimum entry requirement is two (2) principal passes at 'A' level.
- **There two intakes a year Jan intake and July intake.**

MAKERERE UNIVERSITY

The second Online project under the Centre for Innovations and Professional Skills Development is: **The eVBAB project.**

The Government of India offers Scholarships to students from partner African countries through e-VidyaBharati and e-AarogyaBharati (e-VBAB) Network Project to pursue ONLINE Undergraduate, Postgraduate, Diploma and Certificate programmes from various reputable Indian Universities/Institutes in various disciplines including Computer Applications, Business Administration and Commerce, Tourism, Humanities and Arts etc.

The First applications from interested students was in July 2020 and the applicants were invite through the iLearn Portalhttps: //ilearn.gov.in

The Project offers the following programmes:

University Name	Programme Name
Alagappa University	Bachelor of Commerce
	Bachelor of Arts (Tamil)
	Bachelor of Business Administration (Management)
	Master of Business Administration (General)
	Master of Business Administration (Financial Management)
	Master of Business Administration (Logistic Management)
	Master of Business Administration (Human Resource And Management)
Aligarh Muslim University	Bachelor of Arts -Hindi
	Bachelor of Arts -Urdu
	Bachelor of Arts -History
	Bachelor of Arts -Economics
	Bachelor of Arts –Political Science
	Bachelor of Arts-English
	Master of Arts -Hindi
	Master of Arts -Urdu
	Master of Arts -History
	Master of Arts -Economics
	Master of Arts –Political Science
Andhra University	Bachelor of Commerce (Accountancy)
	Master of Arts (Sociology)
Anna University	Master of Business Administration (Business Analytics)
	Master of Business Administration (General Management)
Guru Jhambheswar University of Science and Technology	Master of Business Administration-Human Resource, Marketing
	Bachelor of Commerce-General

University Name	Programme Name
Indira Gandhi National Open University	Certificate in Library And Information Science
	Certificate in Food And Nutrition
	Certificate in Information Technology
	Certificate in Tourism Studies
	Certificate in Rural Development
	Post Graduate Certificate in Agriculture Policy
	Certificate in Tribal Studies
	Certificate in Russian Language
	Certificate in Peace Studies And Conflict Management
	Certificate in Arabic Language
	Certificate in Spanish
	Bachelor of Library And Information Sciences
	Diploma in Nutrition & Health Education
	Diploma in Tourism Studies
	Post Graduate Diploma in Sustainability Science
	Post Graduate Diploma in Rural Development
	Post Graduate Diploma in Environmental and Occupational Health
	Diploma in Urdu Language
	Post Graduate Diploma in Disaster Management
	Post Graduate Diploma in School Leadership and Management
	Post Graduate Diploma in Intellectual Property Rights
	Post Graduate Diploma in Environmental And Sustainable Development
	Post Graduate Diploma(Distance Education)
	Diploma Programme in Value Added Products from Fruits & Veg
	Diploma in Early Childhood Care and Education
	Master of Computer Application
	Management Programme
	Master of Art (English)
	Master of Arts (Rural Development)
	Master of Arts (Journalism And Mass Communication)
	Master of Arts In Gandhi And Peace Studies
	Certificate in French
	Certificate in Urdu Language
	Certificate in Nutrition And Child Care
	Certificate in Health Care Waste Management
	Certificate in Disaster Management
	Bachelor of Computer Applications
	Bachelor of Commerce
	Bachelor of Arts (Tourism Studies)
	Master of Arts (Hindi)
	M.A. in Translation Studies
	Master of Art(Distance Education)
	Master of Arts (Psychology)
	Post Graduate Diploma in Gandhi and Peace Studies
	Post Graduate Diploma in Journalism and Mass Communication
	Diploma in Women's Empowerment and Development
	Diploma in Youth in Development Work
	Diploma in Creative Writing in English
	Post Graduate Certificate in Gandhi and Peace Studies
	Bachelor of Social Work

University Name	Programme Name
Jamia Millia Islamia University	Bachelor of Business Administration
	Bachelor of Arts (General)
	Bachelor of Commerce
	Master of arts (English)
	Master of Arts (Hindi)
	Master of Arts (History)
	Master of Arts (Urdu)
	Master of Arts (Public Administration)
	Master of Arts (Political Science)
	Master of Arts (Sociology)
	Master of Arts (Education)
	Master of Commerce
Chandigarh University	Bachelor of Business Administration
	Bachelor of Arts - Journalism & Mass Communication
	Master of Business Administration
	Master of Commerce
	Master of Arts - Journalism & Mass Communication
Kurukshetra University	Bachelor of Arts
	Bachelor of Commerce
	Master of Arts (Mass Communication)
	Master of Commerce
Mizoram University	Bachelor of Commerce (E-Commerce)
	Bachelor of Commerce (E Accounting)
	Bachelor of Business Administration (E-Business)
	Master of Business Administration- Marketing
	Master of Business Administration - Financial Management
	Master of Business Administration- Entrepreneurship
	Master of Business Administration - Logistics & Supply Chain Management
	Master of Business Administration Big Data Analytics
	Master of Commerce(E-Commerce)
	Executive Diploma in Application Development
	Executive Diploma in Internet Of Things
	Executive Diploma in Artificial Intelligence
	Executive Diploma in Cyber Security
	Diploma in Computer Applications
	Executive Program in General Management - Basic
	Executive Program in Human Resource Management - Basic
	Executive Program in Marketing Management - Basic
	Executive Program in Finance Management - Basic
	Executive Program in Retail Management - Basic
	Executive Program in Operations Management - Basic
	Executive Program in Banking & Finance Management - Basic
	Executive Program in Information Technology - Basic
	Executive Program in Human Resource Management- Advance
	Executive Program in Marketing Management - Advance
	Executive Program in Finance Management - Advance
	Executive Program in Retail Management - Advance
	Executive Program in Operations Management - Advance
	Executive Program in Banking & Finance Management - Advance
	Executive Program in Information Technology - Advance
	Certificate Course in Computerized Accounting
	Certificate Course in Advanced Digital Marketing
	Certificate Course in Android App Development
	Certificate Course in Goods and Services Tax

University Name	Programme Name
Lovely Professional University	Bachelor of Arts (Combination of 3 Subjects - Economics, Computer Applications, Management, History, Political Science, Sociology, English, Hindi)
	Bachelor of Computer Applications
	Bachelor of Commerce
	Master of Computer Applications
	Master of Science (Mathematics)
	Master of Arts (History)
	Master of Arts (Political Science)
	Master of Arts (Economics)
	Master of Arts (Sociology)
	Master of Arts (English)
	Master of Commerce
	Master of Business Administration
Amity University	Bachelor of Business Administration
	Bachelor of Computer Applications
	Bachelor of Arts
	Master of Commerce (Financial Management)
	Master of Arts (Journalism And Mass Communication)
	Master of Business Administration
	Master of Computer Applications
Amrita Vishwa Vidyapeetham University	Master of Business Administration
	Master of Computer Application
	Bachelor of Computer Applications
	Bachelor of Business Administration
	Bachelor of Commerce
	Master of Commerce
D Y Patil, Pune	Master of Business Administration
Hindustan Institute of Technology & Science	Bachelor of Business Administration(Aviation Management)
	Bachelor of Business Administration (Logistics Management)
	Bachelor of Business Administration (Tourism And Hospitality Management)
	Bachelor of Computer Applications (Data Analytics)
	Bachelor of Computer Applications(Multimedia And Animation)
	Bachelor of Computer Applications(Database Management Systems)
	Bachelor of Commerce(Accounting And Finance)
	Bachelor of Commerce(Fintech)
	Master of Arts(English)

University Name	Programme Name
JAIN University	Bachelor of Commerce(Accounting & Finance)
	Bachelor of Commerce(Corporate Accounting)
	Bachelor of Commerce(Professional Accounting & Finance)
	Bachelor of Commerce(Finance & Business Analytics)
	Bachelor of Commerce(Global Finance)
	Bachelor of Commerce(Corporate and Management Accounting)
	Bachelor of Business Administration(Human Resource Management)
	Bachelor of Business Administration(Finance)
	Bachelor of Business Administration(Marketing)
	Bachelor of Business Administration(Investment Banking)
	Bachelor of Business Administration(Finance and Business Analytics)
	Bachelor of Business Administration(Artificial Intelligence for Business)
	Bachelor of Business Administration(Capital Market)
	Bachelor of Business Administration(Global Finance)
	Bachelor of Business Administration(Global Marketing)
	Bachelor of Business Administration(Global Leadership)
	Master of Commerce (Accounting & Finance)
	Master of Commerce(Professional Accounting & Finance with Certified Financial Professional course from Miles-Wiley)
	Master of Commerce(Global Finance)
	Master of Business Administration(Human Resources Management)
	Master of Business Administration(Finance)
	Master of Business Administration(Marketing)
	Master of Business Administration(General Management)
	Master of Business Administration(Systems & Operations)
	Master of Business Administration(Marketing & Finance)
	Master of Business Administration(Finance & HRM)
	Master of Business Administration(Marketing & HRM)
	Master of Business Administration(Aviation Management)
	Master of Business Administration(Information Technology Management)
	Master of Business Administration(Healthcare Management)
	Master of Business Administration(Logistics Management)
	Master of Business Administration(Investment Banking)
	Master of Business Administration(Global Financial Market)
	Master of Business Administration(Finance and Business Analytics)
	Master of Business Administration(Artificial Intelligence for Business)
	Master of Business Administration(Entrepreneurship & Leadership)
	Master of Business Administration(Digital Business)
	Master of Business Administration(Global Finance)
	Master of Business Administration(Global Leadership)
	Master of Business Administration(Global Marketing)
	Master of Arts(Journalism & Mass Communication with Certification in Digital Communication from ISDC-UK)
	Master of Arts(English with Certificate in Business English from ISDC-UK)
	Master of Computer Application (CS & IT with Certificate course from Miles-Wiley)
	Master of Computer Application (Information Security)
	Master of Computer Application (Big Data)
	Master of Computer Application (Machine Learning & Artificial Intelligence)
Jamia Hamdard University	Bachelor of Business Administration
	Bachelor of Computer Applications
	Bachelor of Commerce
JSS ACADEMY OF HIGHER EDUCATION AND RESEARCH	Master of Business Administration (Hospital Administration)
	Bachelor of Business Administration(Hospital And Health System Management)
	Bachelor of Science(Psychology)

University Name	Programme Name
Manipal Academy of Higher Education	Master of Business Administration
	Master of Science(Data Science)
	Master of Science(Business Analytics)
SASTRA	Bachelor of Computer Application
	Bachelor of Commerce
	Bachelor of Business Administration
	Master of Business Administration
	Master to Computer Application
Sathyabama Institute Of Science And Technology	Bachelor of Business Administration
	Bachelor of Commerce
	Master of Arts (English)
	Master of Business Administration -Business Administration
	Master of Science (Mathematics)
SRM Institute of Science and Technology	Master of Business Administration (Human Resource Management)
	Master of Business Administration (Marketing)
	Master of Business Administration (Finance)
	Master of Business Administration (Business Analytics)
	Master of Computer Application
	Master of Commerce
	Bachelor of Business Administration (Digital Marketing)
	Bachelor of Computer Applications (Data Science)
Symbiosis International (Deemed University)	Bachelor of Computer Applications
	Bachelor of Science (Economics) Honours
	Bachelor of Business Administration
	Master of Business Administration
	Master of Arts (Mass Communication)
	Master of Arts (International Studies)
	Master of Science (Nutrition And Dietetics)
	Master of Science (Applied Statistics)
	Master of Science (Data Science)
	Master of Science (Economics)
	Master of Science (Computer Applications)
Vignan's Foundation for Science, Technology & Research (Deemed to be University)	Master of Business Administration (Finance)
	Bachelor of Business Administration(HRM)
	Bachelor of Business Administration(Marketing)
	Master of Business Administration (Finance)
	Master of Business Administration (Human Resource)
	Master of Business Administration (Marketing)
	Master of Business Administration (Marketing & Finance)
	Master of Business Administration (Marketing & HRM)
	Master of Business Administration (Finance & HRM)
	Master of Business Administration (Operations Management)
	Master of Business Administration (Information Technology)
	Master of Business Administration (Business Analytics)
	Master of Business Administration (Banking & Fintech)
	Master of Business Administration (Logistics & SCM)
	Master of Business Administration (Digital Marketing)
	Master of Business Administration (HCM)
	Master of Business Administration (Innovation ,Entrepreneurship & Start-up)
Bharati Vidyapeeth Deemed University	Master of Business Administration
	Bachelor of Business Administration
	Bachelor of Computer Application

For details contact:-
The e-Learning Coordinator or the Front Office,
School of Computing and IT, Block A,
Phone: 0788 864 870 **OR** 0703 147 449 (WhatsApp)

- *The Department of Innovations and Software Development (DISD)*

DISD was formally established in 2008 through a grant from the University of Bergen (Norway). The department seeks to:

- Support software development needs of local clients and of academic and clinical researchers both local and international in an African setting on a non- profit cost recovery basis;
- Exemplify software development practices and tools under professional project management;
- Mentor new software developments and start up business entrepreneurs offering them practical coaching that will let them impact project and business results in the real world.

Since its inception, DISD has worked on projects for several local and international clients namely: OpenXdata, Centre for International Governance Innovation Africa Portal, CU@School, Malaria Consortium, Global Health Uganda, Makerere CIT results & complaints, online HR management system, healthcare e-learning and a malaria surveillance project in Rwanda.

With its international partners and wide application experience, DISD translates and bridges the gap between the developed world and low resource settings for software development, usability maintenance, training and support.

For the more information visit our website:
www.cit.mak.ac.ug/disd

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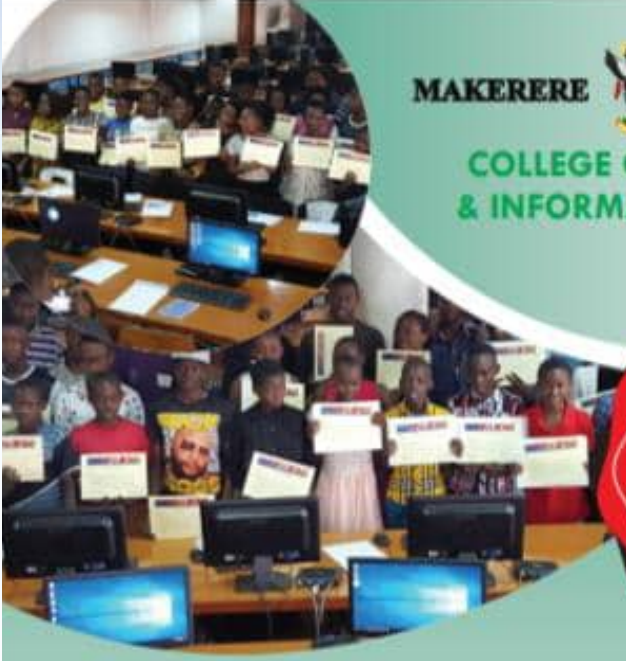

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11. CISCO Certified Networking Professional
12. Video Editing & Motion Graphics
13. Geographical Information Systems
14. Linux Systems Administration
15. Mobile Applications Development
16. Programming (Python)
17. 2D & 3D Motion Graphics
18. Data Analysis & Visualization with Python
19. Machine Learning With Python
20. Advanced Microsoft Office & Online Collaboration

Contact

College of Computing & Information Sciences
Center for Innovations & Professional Skills Development(CIT Block B Level 5/CIT Block A -Front Office)

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