MASTER OF SCIENCE IN COMPUTER FORENSICS

The MSc in Computer Forensics at Uganda Martyrs University is designed to address the growing demand for skilled professionals in the field of digital investigations and cybercrime prevention. In today's rapidly evolving technological landscape, the ubiquity of digital devices has led to an increase in cybercrimes, necessitating the need for experts capable of investigating and mitigating these threats. This program aims to equip students with advanced knowledge and practical skills in computer forensics, enabling them to play a crucial role in safeguarding digital assets and maintaining the integrity of information systems.

Program Objectives

a. The program aims to provide learners with an in-depth understanding of digital forensics principles, methodologies, and techniques. This includes forensic analysis of digital devices, data recovery, and the preservation of digital evidence.
b. Cybercrime Investigation and Prevention, learners will gain the expertise needed to investigate various forms of cybercrimes, including hacking, malware attacks, digital fraud, and online identity theft. Additionally, they will learn proactive measures to prevent cyber threats.
c. Legal and Ethical Considerations: Understanding the legal framework surrounding digital evidence and the ethical implications of computer forensics is crucial. This program will educate learners on relevant laws, regulations, and best practices in the field.
d. The program encourages learners to engage in research activities, allowing them to contribute to the advancement of knowledge in the field. This includes the exploration of emerging technologies and methodologies in computer forensics.
e. Practical training and experiential learning are integral components of the program. Learners will have access to state-of-the-art labs and real-world case studies to apply their knowledge in simulated forensic investigations.

Learning outcomes

a. Advanced knowledge of digital forensics principles, methodologies, and tools.
b. Proficiency in conducting thorough digital investigations and preserving digital evidence.
c. Expertise in analyzing and mitigating cyber threats and attacks.
d. Understanding of legal and ethical considerations in computer forensics.
e. Strong research and problem-solving skills in the field of digital investigations.

Admission Requirements

The general Admission requirements shall be decided and revised periodically by the Senate and made available by the Office of the Deputy Vice Chancellor (DVC). The admission criteria of the MSc CF shall consist of the following;

Admission by Direct Entry: Admission to the first year of the program will require a student to have sat the;

a. Bachelor's degree in Computer Science, information technology or any related Field
b. Uganda Certificate of Education (UCE) and passed with at least a credit in mathematics and English
c. Uganda Advanced Level Certificate of Education (UACE) with at least two principal passes, obtained in the same sitting.

Relevant working experience in the field of cyber security, computer networks and any other related areas.

Program Structure

	YEAR 1 SEMESTER 1			
Code	**Course Name**	**Type**	**CH**	**CU**

MCF61101	Introduction to Computer Forensics	Core	60	4
MCF61102	Operating System Forensics	Core	60	4
MCF61103	Network Forensics	Core	60	4
MCF61104	Digital Evidence Handling and Preservation	Core	60	4
MCF61105	Criminal Law	Core	60	4
MCF61106	Research Methods for Forensics	Core	60	4
	Total CU			**24**
	YEAR 1 SEMESTER 2			
MCF61201	Malware Analysis and Reverse Engineering	Core	60	4
MCF61202	Database Forensics	Core	60	4
MCF61203	Mobile Device Forensics	Core	60	4
MCF61204	Cybersecurity and Digital Investigations	Core	60	4
MCF61205	Science Technology and Ethics	Core	60	4
MCF61206	Financial Management for Computing	Core	60	4
	YEAR 2 SEMESTER 1			
MCF62101	Digital Image processing	Core		4
MCF62102	Incident Response and Digital Forensics Planning	Core	60	4
MCF62103	Big Data Analytics	Core	60	4
MCF62104	Forensic Analysis of Cloud-Based Systems	Core	60	4
MCF62105	Cyber Threat Intelligence and Analysis	Core	60	4
	YEAR 2 SEMESTER 2			
MCF62201	Advanced Cryptography and Digital Signatures	Elective	60	4
MCF62202	Ethical Hacking and Penetration Testing	Elective	60	4
MCF62203	Cybersecurity Policies and Governance	Elective	60	4
MCF62204	Advanced Topics in Digital Forensics	Elective	60	4
MCF62205	Dissertation	Core	90	6
	Total Program Load			**86**