



**COURSE CURRICULUM**

**Course Title: CYBER FORENSICS & COMPUTER APPLICATIONS**

**Course Code: FSIC 604**

**Credit Units: 2**

**Course Level: PG**

**Course Objectives:** The objectives of the course are to:

- Provide students with a technical skills and competencies in the field of forensic computing thus producing competent and confident graduates.
- Produce students who will have a hands-on knowledge and able to perform technical role in forensic computing field.
- Equip students with the right skills thus enabling them to adapt real working environment, while contributing positively to the society at large.

**Pre-requisites:** Basic knowledge about computers and internet.

L	T	P/S	SW/F W	TOTAL CREDIT UNITS
2	0	0	0	2

**Course Contents/Syllabus:**

	Weightage (%)
<b>Module I : Computer Fundamentals - I</b>	<b>10</b>
<b>Descriptors/Topics</b> Computer characteristics and classifications, Concept of Computer Hardware, Concept of Computer Software	
<b>Module II : Computer Fundamentals - II</b>	<b>15</b>
<b>Descriptors/Topics</b> Fundamentals of programming languages, Concept of Algorithm and Flow Chart, Networking and Internet Concepts	
<b>Module III : Data Storage Fundamentals</b>	<b>20</b>
<b>Descriptors/Topics</b> Data Storage Devices, Storage Fundamentals (Sector, Cluster, FAT, etc), File System Concepts, Data Storage and Recovery, Basics of Operating System Software	
<b>Module IV : Pattern Recognition &amp; Biometrics</b>	<b>25</b>
<b>Descriptors/Topics</b> Pattern Recognition & Biometrics – Face, Iris & retinal imaging, Speech recognition, finger and palm print, gait pattern, signatures, Pattern comparison, Image processing – Proactive Forensic science	
<b>Module V : Cyber Crimes, Search and Seizures of Evidence</b>	<b>30</b>
<b>Descriptors/Topics</b>	

Cyber Crimes – definition, IT laws – Introduction, internet, hacking, virus, obscenity, pornography, programme manipulation, software piracy, intellectual property and computer security etc, Encryption and Decryption methods, Investigation of cyber crimes and tools for analysis

**Student Learning Outcomes:** Upon completion of this course, graduates are able to:

- **Describe** their theoretical and practical knowledge in forensic computing, into the future and emerging technology
- **Extend** their competence in the various forensic computing fields.
- **Demonstrate** their skills and knowledge in solving computer forensics problems.

**Pedagogy for Course Delivery:**

This course will be taught in the active-learning mode, featuring both lecture and discussion, including presentations, which provides students abundant opportunity for expressing their opinions. Web-based activities are also included to demonstrate analysis of Evidences.

**Lab/ Practicals details, if applicable: NA**

**Assessment/ Examination Scheme:**

Theory L/T (%)	Lab/Practical/Studio (%)	Total (%)
100	0	100

**Theory Assessment (L&T):**

Continuous Assessment/Internal Assessment				End Term Examination
Components (Drop down)	A	H	CT	
Weightage (%)	5	10	15	70

**Text Reading & References:**

- James, S.H. and Nordby, J.J. Eds., Forensic Science An Introduction to Scientific and Investigative Techniques, CRC Press, London, 2003.
- Leshin, C.B., Internet Investigation in Criminalistics, Prentice Hall, New Jersey, 1997.
- Tessarolo, A.A. and Marignani, A., Forensic Science and the Internet. The Canadian Society of Forensic Science Journal, Vol. 29, 1996.
- Bernad Jahne: Digital Image processing, Springer Verlag (1993)