UNIVERSITY OF ENGINEERING AND MANAGEMENT, KOLKATA

PRESENTS

2024 SUMMER SESSION

ON

Fundamentals of Computer Forensics

2 Weeks (Contact Hours: 24 Hrs.): June 14 to June 23
Days: Friday, Saturday, Sunday
Time: 11 am - 3 pm (Timing can be changed according to tutor's availability)
Course Fees: INR 5000/-
Offered by: Department of CSE (AI & ML)
Instruction Mode: Online
Open Seats: 30

USP of the Course

Joining our summer school isn't just about learning; it's about setting yourself up for success in the fast-paced world of Computer Forensics. Our program isn't like any other - it's designed with one goal in mind: to make you industry-ready. Here's why our sessions are your best bet for breaking into the Computer Forensics field:

1. Tailored Industry Curriculum: Our curriculum isn't just academic; it's crafted with input from industry experts to ensure you learn exactly what you need to deal with in real-world cybercrimes.

2. Practical Hands-on Training: Theory is important but practical makes the difference quotient. Our sessions offer hands-on training with the latest tools and technologies used in the industry, so you'll graduate with the confidence and competence to tackle real-world challenges.

3. Real-World Projects and Case Studies: Gain practical experience by working on real-world problems and case studies. Our sessions are designed to give you a

taste of working in the field, so you'll be ready to hit the ground running from day one.

When it comes to launching a successful career in computer forensics don't settle for anything less than the best. Join us this summer and take the first step towards a rewarding career.

Prerequisite: Proficient knowledge in cybersecurity.

Course Summary:
Understand the fundamentals of computer forensics, objectives of computer forensics, when to use computer forensics, types of cybercrimes, the impact of cybercrimes on an organization, introduction to digital evidence, comprehensive study of digital evidence, identify the roles and responsibilities of forensics investigator, understand the forensics investigation process and its importance, discussion on forensic investigation phases, understanding the hardware and software requirements of a forensic lab, investigation phase, vulnerability analysis.

Duration: 2 weeks (3 days per week, 4 hours per session)

Day 1: Introduction to Computer Forensics

- Need and Objectives of Computer Forensics (30 minutes)
- Cybercrimes (Types and impact on organization) (45 minutes)
- Digital evidence (Introduction, types of digital evidence) (30 minutes)
- How to collect digital evidence (Rules for gathering digital evidence) (45 minutes)
- Understanding digital evidences sources (40 minutes - 1 hour)
- Hands On Task on how to collect and mark digital evidence (30 minutes)
- Q&A (15 minutes)

Day 2: Introduction to Forensic Investigation Phases

- Roles and Responsibilities of a Forensic Investigator (20 -30 minutes)
- Importance of Forensic Investigation Process and its different phases (30 minutes)

- Discussion on Pre-Investigation phase (Requirements for Setting up lab environment, building up of investigation team) (1 hour)

- Discussion on Investigation Phase (Phases of Investigation Phase) (1 hour 30 minutes)

- Q&A (30 minutes)

Day 3: Digital Evidence Gathering

- Collecting and Preserving Evidence (1 hour)

- Securing the evidence (Evidence Management, Chain of Custody record, Evidence Bag contents list, Packaging and Transporting digital evidence) (1 hour 45 minutes)

- Overview of Data Acquisition (15 minutes)

- Hands on Training in FTK image viewer (30 minutes)

- Q&A (30 minutes)

Day 4: More on Data Acquisition and Network log analysis using Wireshark

- Data Acquisition categories and their types (40 minutes)

- Data Acquisition Methodology (1 hour)

- Relevance of Write Blocker (20 minutes)

- Hands on Training for validating data acquisition (20 minutes)

- Hands on Training in Network log analysis using Wireshark (1 hour 20 minutes)

- Q&A (30 minutes)

Day 5: Evidence analysis

- Preparation for evidence Analysis (20 minutes)

- Hands on Training using Forensic Analysis Tool Autopsy (2 hour)

- Discussion on Post investigation phase (10 minutes)

- Release of Final Project/Task and grouping up individuals [Tips for starting project] (20 minutes)

- Q&A and start working on Final Project/Task (1 hour)

Day 6: Final project/Task

- Work on final task for the entire day and conclude the session with solution

- Review the final task and closing up ceremony

This intensive 2-week course will give participants a deep dive into various aspects of computer forensics, including fundamental principles, forensic phases, and real-world case studies. Each session will combine theoretical knowledge with hands-on exercises and discussions to ensure active learning and practical skill development. By the end of the course, participants will be equipped with the knowledge, skills, and confidence to address computer forensics for building a better tomorrow.

Eligibility Criteria:

For IEM Students:

- Enrollment Requirement: Must be currently enrolled as a degree-seeking student at IEM, Newtown or IEM Salt Lake or IEM Kolkata

For Non-IEM Students:

- Age Requirement: Applicants must be at least 18 years old by the start of the courses.

- Educational Qualification: A high secondary degree/diploma degree is mandatory.

- English Language Proficiency: Must demonstrate proficiency in English as per the specified requirement.

- Application: Students must complete the Summer Sessions application to gain access to enroll in summer courses.

Please note that eligibility criteria may be subject to updates or changes, and prospective applicants should verify the latest requirements on the official UEM website.