

Teaching Plan

Term Oct 2022

Module Name DIGITAL FORENSICS

Credit Units 4

Module Leader LIEW YOON HIN

Contact 60 hrs

WK	Begin Date	Topics	Activity/Session 1	Activity/Session 2	Assessment
1	17 Oct	Computer Forensics & Digital Evidences	Computer Forensics & Digital Evidences 1.1 The background and scope of computer forensics 1.2 Three stages in Forensic investigation 1.3 What is Digital Evidence? 1.4 Categories of Forensic Data 1.5 Persistent vs Volatile Data 1.6 Forensic Image 1.7 EnCase Evidence File (E01) Module Briefing	Practical 1: Familiarization with Encase Practical 2: Acquiring Digital Evidence	
2	* 24 Oct	Investigative Process	Investigative Process 2.1 Key steps in computer forensic investigation 2.2 First response procedure at the crime scene	Practical 3: Searching & Bookmarking	
3	31 Oct	Evidence Extraction & Analysis	Evidence Extraction & Analysis 3.1 Types of evidence extraction 3.2 Common analysis methods 3.3 How to collect evidence from live Windows operating system 3.4 How to interpret event logs	Practical 4: Signature Analysis & Searching Unallocated Space	Assignment 1 Briefing (40%)

4	07 Nov	Windows Artifacts CA: Individual Quiz on POLITEMALL	Windows Artifacts 4.1 Windows user files and folders 4.2 Windows system files and folders 4.3 Windows Recycle Bin	Practical 5: Windows Artifacts	CA: Individual Quiz (10%) - Computer Forensics & Digital Evidences - Investigative Process - Evidence Extraction & Analysis Assignment 1 (40%)
5	14 Nov	Whitespace Week	Whitespace Week Individual Research on Assignment - Open Source Forensic Tool	Whitespace Week Individual Research on Assignment - Open Source Forensic Tool	Assignment 1 (40%)
6	21 Nov	Windows File System CA: Individual Practical	Windows File System 6.1 Hard drive structure 6.2 Slack, allocated and unallocated space 6.3 Physical and Logical Drive 6.4 Windows File Systems 6.5 FAT file system 6.6 NTFS file system	CA: Individual Practical (10%)	CA: Individual Practical (10%) - Forensic Investigation using EnCase Assignment 1 (40%)
7	28 Nov	NTFS Analysis	NTFS Analysis 7.1 NTFS Partition Boot Record (PBR) 7.2 NTFS Master File Table (\$MFT) 7.3 NTFS \$Bitmap	Practical 6: MBR and VBR Practical 7: NTFS Analysis	Assignment 1 (40%)
8	05 Dec	Common Test Revision	Common Test Revision	Common Test Revision	Assignment 1 (40%)

9	12 Dec	Common Test	Common Test Topics Tested: - Computer Forensics & Digital Evidences - Investigative Process - Evidence Extraction & Analysis - Windows Artifacts - Windows File System - NTFS Analysis	Common Test Coverage: Include all Lectures, Practical and Tutorials	Common Test (30%) Assignment 1 (40%)
10	19 Dec	Break			Assignment 1 (40%)
11	26 Dec	Break			Assignment 1 (40%)
*12	02 Jan	Law & Computer Forensics Encase Reporting	Law & Computer Forensics 12.1 Computer Misuse & Cybersecurity Act for Computer Crimes in Singapore Encase Reporting 12.2 Computer Forensic Reporting 12.3 Preparing examiner report 12.4 EnCase RTF reporting Common Test Feedback	Practical 8: Familiarization with SQLite Forensic tool Practical 9: Reporting	Assignment 1 (40%)
13	09 Jan	Live Response	Live Response 13.1 Variations of live response 13.2 Order of volatility 13.3 Collecting volatile and non-volatile data 13.4 Windows Registry	Practical 10: Live Response	Assignment 1 (40%)
14	16 Jan	Whitespace Week	Whitespace Week	Whitespace Week	Assignment 1 (40%)
*15	23 Jan	Assignment	Assignment	Assignment - In-Class Forensics Investigation	Assignment 1 (40%)
16	30 Jan	Assignment	Assignment	Assignment - In-Class Forensics Investigation (For classes affected by CNY)	Assignment 1 (40%)

17	06 Feb	CA: Individual Quiz on POLITEMALL Assignment Demo	Assignment Demo	Assignment Demo	CA: Individual Quiz (10%) - Law and Computer Forensics - Live Response Assignment 1 (40%)
18	13 Feb	Study & Exam Week			
19	20 Feb	Study & Exam Week			

Holiday:

- 24 Oct - Deepavali
- 26 Dec - Christmas Day
- 02 Jan - New Year's Day
- 23 Jan - Chinese New Year
- 24 Jan - Chinese New Year

Notes on Teaching Plan:

Week 5 has been designated as whitespace. Students will make use of the week to perform research and work on their assignment, along with other whitespace activities.

Textbooks / Recommended Readings:

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