**Course Name:** Elective – 1/Cyber Security and Cybercrime    **Course Code:** ITEC-3**/ITEC-333

| General Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **ITEC- 3\*\*** | **Level/Year** | **6/3** | **Required (R) / Selected Elective (SE)** | | | **SE** |
| **Credit Hours** | **Theory** | **2** | **Lab** | **1** | **Total** | | **3** |
| **Prerequisites** | **ITEC331** | **Course Coordinator** | | **Ms. Ayasha Siddiqua** | | | |
| **Corequisites** | **Nil** | **Track Leader** | | **Ms. Rahama** | | | |

## Course Description

 This course explores cyber-security measures and the different forms of cybercrime and emergent forms of cyber-warfare.  Students will learn challenges to cyber-security and examine the nature, prevalence, scope and how criminals perform these crimes. They will be aware of how the concept of cyber power rises naturally from a holistic consideration of cybersecurity and, specifically, how it can be expressed through cyber criminality, cyberterrorism, cyber conflicts and cyberwarfare. The course also provides the impact of cybercrime on victims, business, and the state, and the responses of information security providers and police agencies. Ethics and laws related to cyber-crime are also introduced. The course includes a critical understanding of the threats to rights posed by the emergent new digital age of surveillance.

## Course Objectives : On completion of the course, the student will be able to:

- Understand the structure, mechanics and evolution of the Internet in the context of emerging crime threats and technological and other trends in cyberspace.
- Understand the threats that society should be prepared to face and the ways in which crimes and conflicts are carried out in cyberspace.
- Respond to cyberattacks and ensure cybersecurity strategies.
- Distinguish and classify the forms of cybercriminal activity and the methods used to undertake such crimes.
- Investigate assumptions about the behavior and role of offenders and victims in cyberspace, and use basic web-tools to explore behavior on-line.
- Develop the awareness and skills that will allow society to fight against cyber-based criminality and abuse
- Analyze and assess the impact of cybercrime on government, businesses, individuals and society.
- Evaluate the effectiveness of cyber-security its ethics, cyber-laws and other counter measures against cybercrime and cyber warfare.

## Course Contents

| List of Topics | Weeks |
|---|---|
| **Ch#1**:  **Understanding fundamentals of Cyber Security and Cyber crimes** | *1,2,3* |
| **Ch#2 : Recent trends in cybersecurity and cybercrime** | *4, 5, 6* |
| **Ch#3: Managing the security problems and Security tools** | *7, 8,9* |
| **Ch#4 Cybercrimes Against Persons, Assets and States** | *10,11,12* |
| **Ch#5: Ethics and Laws relating to Cyber security and Cybercrime** | *13,14,15* |

| Textbook |
|---|
| • Cyber Power CRIME, CONFLICT AND SECURITY IN CYBERSPACE, SOLANGE GHERNAOUTI- CRC PRESS  2013 |

| Reference Materials |
|---|
| • Cybercrime and Society (4th ed.), Majid Yar, Kevin F. Steinmetz  (2024) |
| • Cybercrime and Cybersecurity, ByPaul A. Watters, Edition1st Edition, 2023 |
| • Cybercrime: The Transformation of Crime in the Information Age, 2nd Edition, David S. Wall , ISBN: 978-1-509-56313-5, April 2024 |

### Course Learning Outcomes

| CLO | Description | Mapped PI |
|---|---|---|
| CLO#01 | **Define** the fundamentals of cyber security, cyber crime and its defense. | SO-1/PI 1.1 |
| CLO#02 | **Describe** the recent trends in Cyber security and cybercrime. | SO-1/PI 1.2, |
| CLO#03 | **Explain** Cyber security Incidents response plan, appropriate security measures and tools. | SO-6/PI 6.1 |
| CLO#04 | **Identify** crimes against people, assets and states and how to mitigate them. | SO-6/PI 6.4 |
| CLO#05 | **Evaluate** ethical dilemmas, legal issues and global approach to cyber security and cyber crime. | SO-4/ PI 4.1, PI 4.3 |
| CLO#06 | **Demonstrate** clear and concise technical documentation for various audiences | SO-3/PI 3.1 PI 3.2 |

### CLO-PI-SO Mapping

| | SO-1 | SO-2 | SO-3 | SO-4 | SO-5 | SO-6 |
|---|---|---|---|---|---|---|
| CLO#01 | PI 1.1 | - | - | - | - | - |
| CLO#02 | PI 1.2 | - | - | - | - | - |
| CLO#03 | - | - | - | - | - | PI 6.1 |
| CLO#04 | - | - | - | - | - | PI 6.4 |
| CLO#05 | - | - | - | PI 4.1, PI 4.3 | - | - |
| CLO#06 | - | - | PI 3.1, PI 3.2 | - | - | - |