

## **Department of Electrical and Computer Engineering**

### **EEE 4XXX – Ethical Hacking and Countermeasures**

#### **Catalog Description**

This course will give individuals an exposure to latest hacking tools and techniques to understand the anatomy of computer attacks and teach them the countermeasure to protect their valuable data.

#### **Catalog Objectives**

- To give the students an understanding of the various types of attacks on different computing devices.
- To give the students a hands-on exposure to the latest tools and techniques that the hackers utilize to attack computing devices in order to steal valuable and private information.
- By performing ethical hacking on isolated test systems, students learn countermeasures in terms of how to protect the valuable information stored on variety of computing devices.

#### **Prerequisites**

Knowledge of windows operating system.

#### **Textbooks**

Hands-On Ethical Hacking and Network Defense by Michael T. Simpson, Kent Backman and James Corley (2012)

#### **Topics covered**

- Ethical Issues
- Introduction to Ethical Hacking
- Security issues in various computing devices (computers, iPad, and Cellphones, etc.)
- Security issues in Web-browsing
- Security issues in Wired and Wireless networks.
- Countermeasures and how to protect valuable information\

#### **Class schedule**

Twice a week 75 minutes class with hands-on lab as part of the lectures

**Contribution of course to meeting the professional component**

Engineering science – 90% (math/science required for creative applications)

Engineering design – 10% (decision making process of devising a system, component or process to meet a desired need).

**Relationship of course to program outcomes:**

In the course EEE 4XXX – Ethical Hacking and Countermeasures, the student will have to show

1. An ability to apply knowledge of mathematics, science, and engineering
2. An ability to design and conduct experiments, as well as to analyze and interpret data
3. An ability to identify, formulate, and solve engineering problems
4. An understanding of professional and ethical responsibility
5. Recognition of the need for, and an ability to engage in life-long learning
6. Knowledge of contemporary issues
7. An ability to use the techniques, skills and modern engineering tools necessary for engineering practice

**Person who prepared this description and date of preparation:**

Dr. Faisal Kaleem