TIM-7010, Computer Networks & Mobile Computing

(3 credits)

## Course Description:

In this course, students will explore emerging issues in computer network design and management. Particular attention will be topics on how mobile computing has changed the way networks are designed and managed.

## Number of Assignments: 8

## Course Learning Outcomes:

Evaluate the adaptability of wired networking concepts to mobile/wireless networks and the issues created by this shift.

Mitigate security risks in wired and wireless networks.

Evaluate emerging knowledge in wired and wireless networks and its potential to influence professional practice.

Formulate strategies for expanding high-speed information access to underserved communities.

## Course Concepts:

* Software defined networks
* Mobile computing
* Internet of Things
* Computer network research trends

## Primary Resource/textbook:

None

## Course Outline:

### Section 1: Software Defined Networking (SDN)

#### Week 1: Software Defined Networks: Introduction

##### Week 1 - Assignment: Search and Review Literature Related to Software Defined Networking - Points: 10

#### Week 2: Software Defined Networks: Challenges and Issues

##### Week 2 - Assignment: Formulate a Software Defined Networking Problem Statement - Points: 10

### Section 2: Mobile Computing

#### Week 3: Mobile Computing: Introduction

##### Week 3 - Assignment: Search and Review Literature Related to Mobile Computing Points: 10

#### Week 4: Mobile Computing: Challenges and Issues

##### Week 4 - Assignment: Examine and Critique a Scholarly Article Related to Mobile Computing Challenges - Points: 10

### Section 3: Internet of Things (IoT)

#### Week 5: Internet of Things: Introduction

##### Week 5 - Assignment: IoT and Special Needs Users- Points: 10

#### Week 6: Internet of Things: Challenges and Issues

##### Week 6 - Assignment: Formulate an Internet of Things Problem Statement - Points: 10

### Section 4: Research and Application

#### Week 7: Research Proposal

##### Week 7 - Assignment: Signature Assignment: Develop a Research Proposal - Points: 20

#### Week 8: Experimentation

##### Week 8 - Signature Assignment: Reproduce a Published Experiment - Assignment Points: 20