International Winter School-
Manipal University Jaipur
[IWSMUJ]-2023

[Hybrid Mode]

Course/Project Overview

Name of Project- Cyber Security and Blockchain

Name of instructor: Prof. Dinesh Kumar Saini
Session: Jan.-Feb. 2023
Language of instruction: English
Number of contact hours: 36
Credit awarded: 03

Objective of Project

In this project course I will introduce the concept of blockchain and cyber security. I will cover financial fraud and artificial intelligence in dealing with online financial fraud detection and prevention. Various tools used in cyber defence and cyber security. Penetration testing and mathematical modelling used in designing cyber defence systems will be covered.

Syllabus:
- ➢ Cyber Space
- ➢ Cyber Security Challenges
- ➢ Security is moving target
- ➢ Blockchain
- ➢ Smart Contracts
- ➢ Penetration Testing
- ➢ Cyber Defence
- ➢ Project Implementation

Organization of Course

Total contact hrs 36		
1st week:	10 hrs (classes)	2 hrs (self-study/project)
2nd week:	10 hrs (classes)	2 hrs (Mid-term exam/assessment/discussion)
3rd week:	10 hrs (classes)	2 hrs
4th week:	6 hrs (Classes)	2hrs (End term exam)

Mode of lectures: Hybrid mode lecture/videos/case study/ discussion/ workshop/

Lecture no.	Topic	Lecture mode	Instructor
L: 1-3	Introduction to the project	Online/ Offline	Prof. Dinesh Kumar Saini
L: 4-5	Project Planning	Online/ Offline	Prof. Dinesh Kumar Saini
L: 6-7	Cyber Space	Online/ Offline	Prof. Dinesh Kumar Saini
L: 8-9	Cyber Security	Online/ Offline	Prof. Dinesh Kumar Saini
L: 10-11	Cyber Security Challenges	Online/ Offline	Prof. Dinesh Kumar Saini
L:12-13	Solutions and alternatives	Online/ Offline	Prof. Dinesh Kumar Saini
L:14-15	Security is moving Target	Online/ Offline	Prof. Dinesh Kumar Saini
L: 15-19	Cyber Defence	Online/ Offline	Prof. Dinesh Kumar Saini
L:20-21	Blockchain Concept	Online/ Offline	Prof. Dinesh Kumar Saini
L: 22-25	How to design blockchain enabled Solutions	Online/ Offline	Prof. Dinesh Kumar Saini
L: 26-30	Smart Contracts	Online/ Offline	Prof. Dinesh Kumar Saini
L: 31-34	Sample Project	Online/ Offline	Prof. Dinesh Kumar Saini
L: 35-36	Project presentation and Deliverables	Online/ Offline	Prof. Dinesh Kumar Saini

Brief profile of the instructor

With a vast experience in academics --as a professor, researcher, and administrator—in universities like BITS Pilani, King Saud, university of Queensland, Sohar University, and Now Manipal University Jaipur, with proven record of accomplishment and leadership skills in higher education and tertiary education sector. I am fellow of International Mathematics Association UK(FIMA), Fellow of Royal Statistical Society UK (FRSS).

I have served as Dean in the Faculty of Computing and Information Technology of Sohar University in Sultanate of Oman, founder Program Coordinator and Head of Department for Business Information Technology for more than 10 years

Won Emerald Literati Award UK for 2018 for article, 'Modelling human factors influencing herding during evacuation' published in International Journal of Pervasive Computing and Communications. Besides my academic credentials aptly measured by different quantifiable metrics (Google citation count 1282, H-Index-16, i10 Index 30 and 22 international patents),