

623.714

PERMISSIONED BLOCKCHAINS: ILLUSTRATED USING HYPERLEDGER FABRIC



SCHEDULE:

Monday, November 18, 2019:
10-14 (S.2.42)

Tuesday, November 19, 2019:
14-16 (S.2.42)

Wednesday, November 20, 2019:
08-10 (S.2.42)

Monday, November 25, 2019:
10-14 & 16-18 (S.2.42)

Tuesday, November 26, 2019:
14-16 (S.2.42)

Wednesday, November 27, 2019:
08-10 (S.2.42) & 14-16 (S.1.42)



**Assoc.-Prof. Dr.
Antorweep Chakravorty**
University of Stavanger & bitYoga
<https://bityoga.com/>

The objective of the course is to introduce decentralised computing on blockchain. The course aims to familiarise the audience to the concept of blockchain, its history and importance. Through the use of permissioned blockchain they would be able to relate to the need of decentralised computing for enterprises. By the end of the course, student would be able to create their own blockchain architectures and decentralised applications (DAPPs).

MODULE 1 (6 hours):

Introduction

Course Overview, Bitcoin and Blockchain, Blockchain 2.0, Smart Contracts, Hyperledger Fabric

Hyperledger Fabric (HLF) Overview

Architecture, Modules, Workflow

Docker Compose

Intro to Docker & Docker Compose, HLF setup, Intro to Chaincodes, Chaincode deployment to a Fabric Blockchain

MODULE 2 (10 hours):

HLF Architecture

Detailed multi-organizational HLF architecture, Working with Certificate Authorities, Policies for organizations and Chaincode endorsement

Chaincodes

Chaincode development framework, Chaincode development using Nodejs, Chaincode deployment

Ansible for HLF deployment

Intro to Ansible, Spawning of an infrastructure, Working with Ansible

MODULE 3 (4 hours):

Hyperledger Explorer – Visualizing your HLF, Hyperledger Caliper – intensive testing on HLF architecture performance, Hyperledger 2.0, Conclusion