

Course Outline for CS 798-2: Network Softwarization: Technologies and Enablers (Short title: Network Softwarization Enablers)

Part 1: Software-Defined Networking and Network Monitoring:

- SDN data plane – Open vswitch and Mininet tutorial and lab
- SDN control plane – ONOS tutorial and lab
- Programmable data plane – P4 lab

Part 2: Cloud Computing, Network Function Virtualization and Orchestration

- Cloud Computing – OpenStack tutorial and lab
- Programmable Networks – Introduction to SAVI
- Network Function Virtualization – Containers and Orchestration

Part 3: 5G and IoT

- IoT, Smart Cities, and 5G Use Cases – IoT applications lab

Part 4: 5G Monitoring and Network Security

- Network Monitoring – Packet capture and Tshark
- Monitoring 5G Networks using MCR

Part 5: Sustainable Management of Clouds and Networks

- Energy efficient and sustainable management – Green ICT tutorial
- Data Analytics – Cloud workload classification/prediction lab

Part 6: Beyond 5G and 6G Networks

- 6G Research Challenges