DevOps & Service (DOS)
Elective – 2019/2020

Course Introduction :

The DevOps & Services elective will provide you with in-depth knowledge of various DevOps tools including Git, Jenkins, Docker, Ansible, Kubernetes and cloud providers. This is completely hands-on and designed in a way to help you become familiar with practices in Continuous Development, Continuous Testing, Configuration Management and Continuous Integration, and finally, Continuous Monitoring of software throughout its development life cycle.

Course will involve a lot of coding and hands-on and students are expected to architect and build a micro-service based application suitable for modern cloud environments.

Course Content/Outline :

1. DevOps (Where, When and How)

2. DevOps specific debugging utilities in Linux

3. Linux networking and storage details

4. Virtualization and VM orchestration tools (I.e Openstack)

5. Containerization and container environment using docker

6. Container orchestration using Kubernetes

7. Continues Integration and Continues Deployment using Jenkins

8. Architecting micro-services using Kubernetes

9. Log-aggregation using EFK stack

10. Infra-monitoring using (Prometheus and Grafana)

11. Anomaly detection (Infra and System anomaly)

12. Hybrid environment (multi-cloud) deployment and use strategies

13. DevOps Future and Scope (Full Stack Vs Full Cycle)