

Software Deployment and Operations

Summer 2022 schedule

Week	Lecture topics	Online topics	Assignments
1 3/10	Review of agile software engineering	Discussion of Martin Fowler article	Quiz
2 3/17	DevOps history and culture <ul style="list-style-type: none">Connections to manufacturingLean software engineeringThe Three Ways	Video and article discussion <ul style="list-style-type: none">Flickr 10 deploys per dayFirst Way of DevOps	Quiz
3 3/24	CICD Pipelines <ul style="list-style-type: none">Definitions and motivationsDeployment patternsMicroservices architectureContainers and virtualization	Docker compose vs k8 discussion	Quiz HW1 - Docker compose getting started tutorial
4 3/31	CICD demo (screencast videos) <ul style="list-style-type: none"><i>Wordguesser web app</i><i>Dockerize wordguesser</i><i>Creating a pipeline in GitLab</i><i>Adding deploy step</i><i>Pipeline optimization</i>	No discussion; follow videos/HW	Quiz HW2 – submit (trivial) merge request to GitLab pipeline for Wordguesser app
5 4/7	Toward Ops: Performance, reliability, and monitoring	Site Reliability Engineer vs DevOps Engineer (vs. DevSecOps Engineer?)	Quiz HW3 – NALA improve pipeline Project posted
6 4/14	Newton guest lecture, virtual (TBD) <ul style="list-style-type: none">DevOps at scale (we never got bigger than docker-compose)DevSecOpsApplication security testingAdd security into pipelineAudit/evaluate a pipeline for optimization/security?	Test posted	Test Projects
7 4/21	Presentations		