

# Review For Midterm Exam

## CS472 – SWE

### **Topics**

1. SW methodologies: Waterfall, RUP, and Agile; Scrum: Roles and cycle
2. Requirements: Functional & Non-Functional, user stories
3. Analysis: use case diagram, sequence diagram, class diagram, database diagram, activity diagram.
4. SW architecture: Monolithic, layered, micro-services.
5. SW Design: Domain Driven Design, Rich model, SOLID.
6. Cloud Computing: IaaS, PaaS, FaaS, SaaS, server-based architecture, serverless architecture
7. DevOps: Git, CI/CD, IaC, Logging & Monitoring
8. Container: Docker, Docker Compose, Kubernetes (minikube, cloud)

### **Exam Information**

1. Format: In-person, On-paper
2. Time: 10:00 AM – 12:30 PM, Friday, 12/05/2025
3. Location: M218

### **Question Types**

1. MCQ  
What does SOLID represent in software engineering?  
A. A set of principles for database optimization  
B. A group of five object-oriented design principles  
C. A framework for mobile development  
D. A methodology for Agile project management
2. Draw a diagram (use case, sequence diagram, class diagram, component diagram, deployment diagram)
3. Write requirement statements or user stories
4. Code