SOFTWARE ENGINEERING

Class 1, Course Description

COURSE OVERVIEW

GOAL

Learn software engineering concepts by building a highly scalable application deployed to the cloud.

Theory

Mid Sem

Project

12-14 Classes

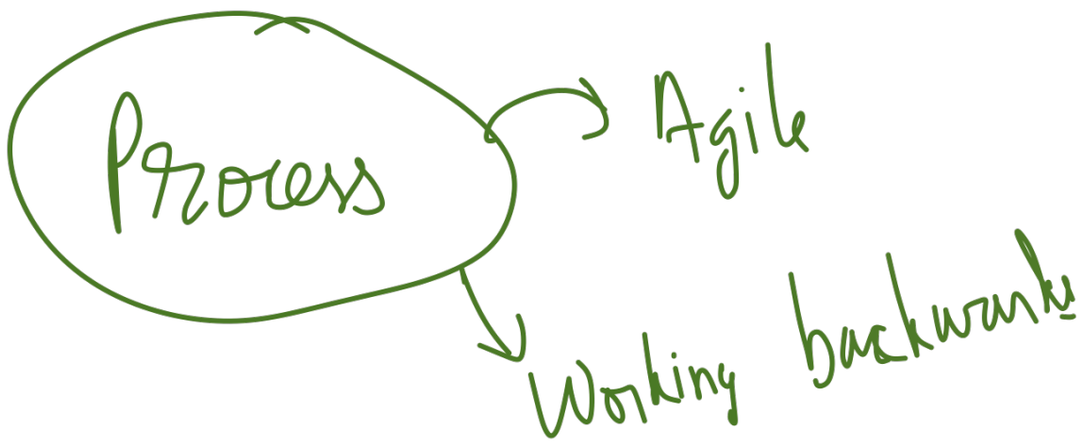
(Software Engineering Basics)

12-14 Classes

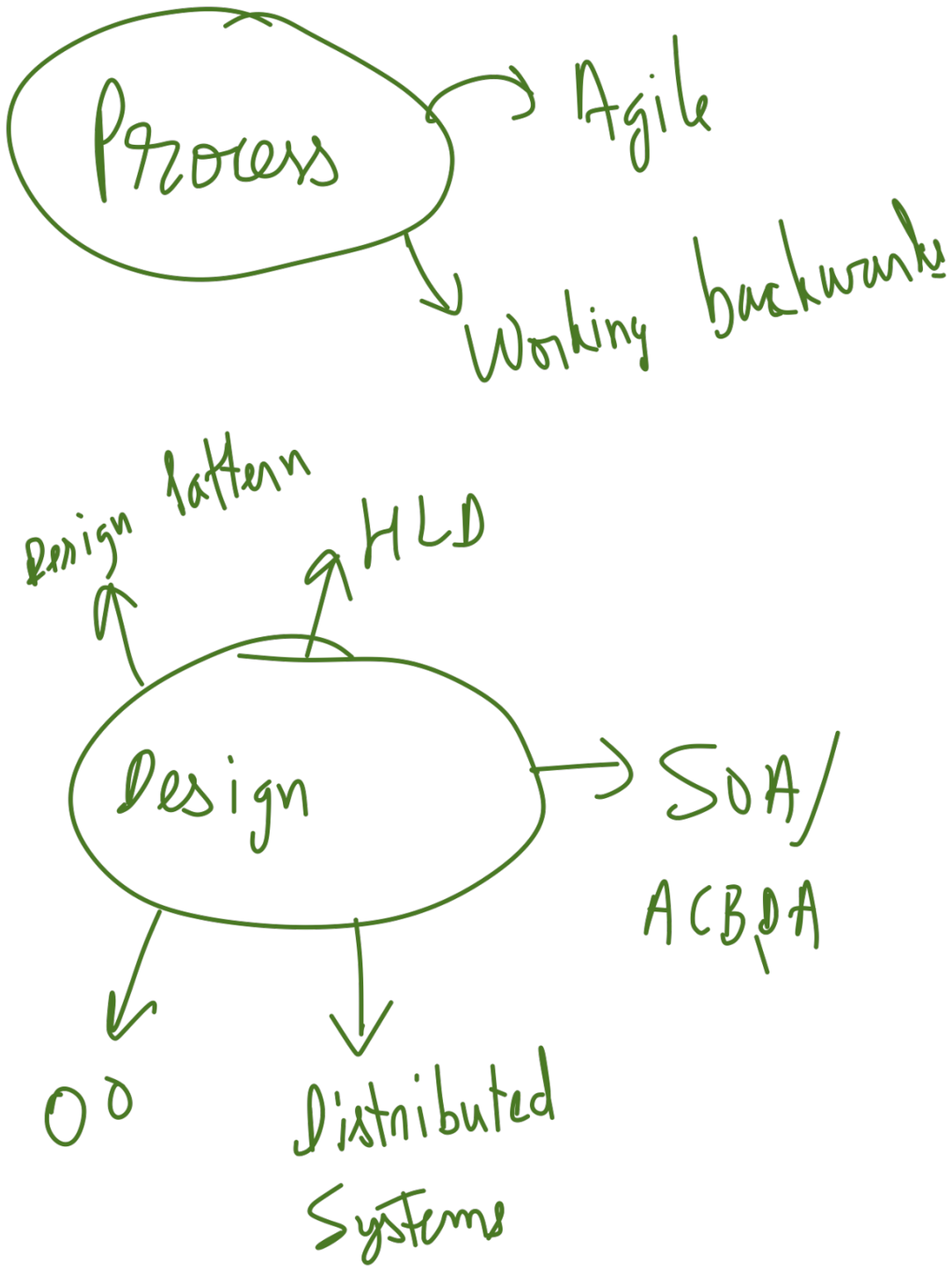
(Reviews, Demo & Guest lecture)

2-4 Optional Classes for learning Java/ Cloud Syste

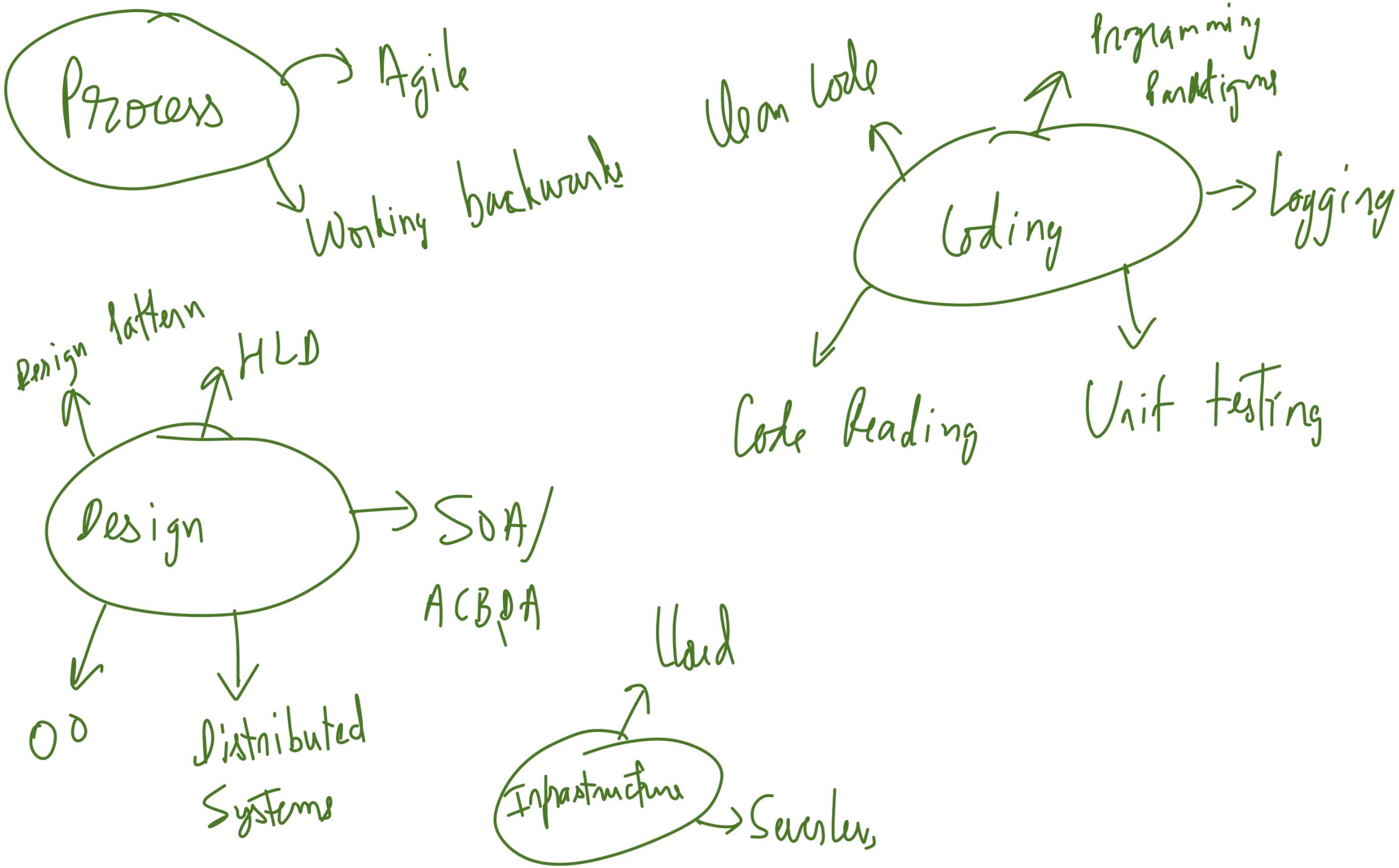
THEORY



THEORY


Process
Agile
Working backwards
Design pattern
HLD
Design
SOA/
ACBDA
OO
Distributed
Systems

THEORY


Process
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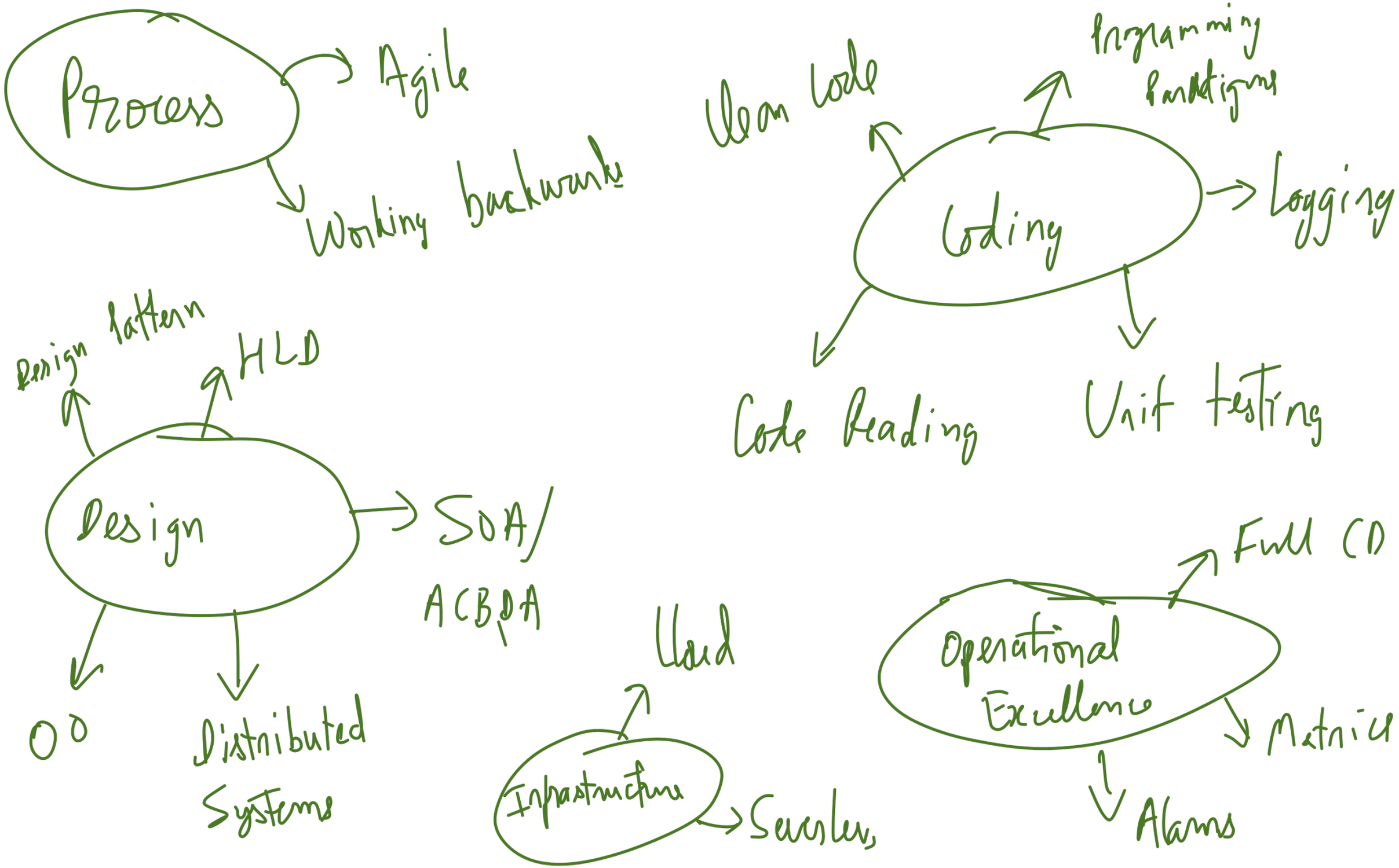
Design
SOA/
ACBDA
OO
Distributed
Systems
Clean code
Programming
Paradigms
Coding
Logging
Code Reading
Unit testing
Cloud
Infrastructure
Security

THEORY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OO
Distributed
Systems
Clean code
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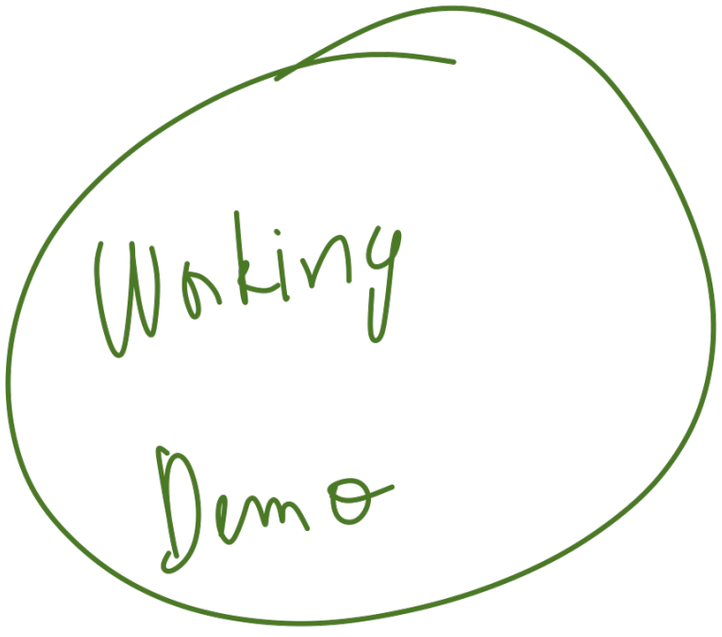
Paradigms
Coding
Logging
Code Reading
Unit testing
Cloud
Infrastructure
Security
Full CD
Operational
Excellence
Metrics
Alarms

PROJECT [Team Size : 2 - 6]



Type of Evaluation	Weightage (in %)
Mid SemExam	**20%**
PRFAQ Review (In Class)	**10%**
Design Review (In Class)	**10%**
Final Project Demo (In Class)	**40%**
Class interaction/Quiz	**20%**

20%

80%

No text book / all reference materials available online

REFERENCES

- https://www.infoq.com/presentations/Software-Engineering/ by Glenn Vanderburg
- https://www.infoq.com/podcasts/taking-back-software-engineering/
- “No Silver Bullet - Essence and Accidents of Software Engineering” by Frederick P. Brooks. Available at IEEExplore and https://en.wikipedia.org/wiki/No_Silver_Bullet
- SWEBOK v3.0 - https://www.computer.org/education/bodies-of-knowledge/software-engineering
- “The Emperor's Old Clothes” - http://web.archive.org/web/20070211210228/http://www.braithwaite-lee.com/opinions/p75-hoare.pdf
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