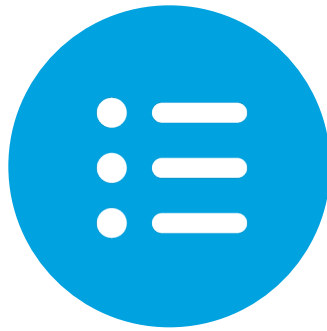


# Introduction to Software Verification, Validation and Testing

Testing Throughout Life Cycle

# Objectives



## Objective

Describe how testing is integrated into software development phases



## Objective

Define the objectives of the different levels of testing

# Testing Throughout Life Cycle



| Waterfall

| Agile

| TDD

| Agile Methodology:  
The Complete Guide  
to Understanding  
Agile Testing

# Agile Testing



## | Continuous Integration (at least daily)

- Static Code Analysis
- Compile
- Unit Test
- Deploy into Test Environment
- Integration / Regression Test

# Test Driven Development (Red, Green, Refactor Cycle)



## | Red Phase:

- Write a minimal test on the behavior needed

## | Green Phase:

- Write only enough code to make the failing test pass

## | Refactor Phase:

- Improve code while keeping tests green

# Software Development Process vs Test Development Process

<u>Req</u>	planning tracking	<u>Test objectives</u>
<u>Design</u>	~	<u>Test Design</u> [sampling]
<u>code</u>	~	write test case,
<u>test</u>	~	execute tests
<u>maintenance</u>	~	<u>sum</u>