

# Agile Programming—ICAgile Certification



- Learn practical agile development techniques through hands-on exercises
- Understand how to develop better code with less effort and fewer defects
- Experience practical development approaches that will help your project attain enduring quality
- Practice automating tests, refactoring, handling and legacy code
- Get hands-on with TDD, BDD, collaborative development, and the build process

Many organizations are transforming to an agile culture to accelerate software development and delivery. This course engages attendees in software development techniques that are best applied to align with agile values and principles.

After an initial introduction to agile values and principles, one might wonder how work is meant to reflect the meaning of ambiguous phrases in the Agile Manifesto such as "working software is the primary measure of progress" or "simplicity—the art of maximizing the amount of work not done—is essential." How exactly are developers supposed to carry out programming in this new world?

This interactive workshop engages participants in pragmatic hands-on exercises to reinforce and practice what they learn. Participants walk away with experience in some of the most effective techniques used today and leave better equipped to develop software more effectively and efficiently.

## Who Should Attend

Developers, software developers in test, architects, and technical leads who have a basic understanding of good programming practices and want to take their analysis, design and programming skills to a new level.

## Laptop Required

This class involves hands-on activities using sample software to better facilitate learning. Each student should bring a laptop with a remote desktop protocol (RDP) client preinstalled. Connection specifics and credentials will be supplied during class. Please verify permissions with your IT Admin before class. If you or your Admin have questions about the specific applications involved, contact our [Client Support team](#) [1].

## ICAgile Certification

Successful attendees are awarded the ICAgile Certified Professional: Agile Programming (ICP-PRG). Additionally, the certified professionals will be listed on the ICAgile website, indicating their designation. Coveros recommends [Agile Fundamentals—ICAgile Certified Professional \(ICP\)](#) [2] for those seeking ICAgile certifications. *The ICAgile certification fee is included with your registration for your convenience.*

## Course Outline

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### Introduction

#### Agile recap

#### Automated tests

- Types of tests to automate
- Fixture setup
- Coding tests by intention
- Verifying results

### Refactoring

- Clean programming
- Common code smells
- Principles of refactoring
- Common refactorings
- Refactoring tools
- Approaching legacy code

- Completeness conditions
- Avoiding duplication
- Listening to your tests
- Testing the tests
- Refactoring tests
- Test speed
- Test execution time
- Use test doubles
- Dependency injection

- Retrofitting tests on legacy code

## **TDD**

## **BDD**

## **Collaboration**

- Collective accountability

- Collective ownership

- Basics of pairing

- Types of pairing

- Build tools

## **The build process**

- Build tools

- Version control

- Continuous integration