

Intended for anyone involved in software development, this course provides a unique and intensive experience as it guides teams on how to turn product requirements into business value in the form of potentially-releasable increments of done, working software. This is accomplished using the Scrum framework, Visual Studio, and modern Agile development practices.

Through a combination of certified instructor-led training, hands-on activities, and team exercises participants are exposed to the key components of Scrum and the skills required to help successfully develop software using Visual Studio. At course completion, attendees will have had exposure to most of the topic areas outlined in the [Professional Scrum Developer Subject Areas](#) [1].

This course is a mix of lecture, demonstration, group discussion, and hands-on software development. The true value of the course is realized as each student collaborates with other team members, on a case study product, using Azure DevOps Services, over several mini-Sprints.

## Who Should Attend

This course is suitable for any member of a Scrum Development Team, such as those who develop tests, architecture, design, schema, or code. Entire teams are encouraged to attend this course and experience the positive effects of collaborating inside of a timebox according to their definition of done. Each team must be cross-functional, ensuring it has the necessary skills. Product Owners, Scrum Masters, stakeholders, and those evaluating Scrum's effectiveness are welcome to attend, but keep in mind that every attendee will be expected to participate and collaborate equally, working towards the achievement of their team's goals.

## Prerequisites

This course assumes that each student has read the [Scrum Guide](#) [2], has a basic understanding of Scrum, and is using Visual Studio 2019 Enterprise edition. Failure to meet any of these prerequisites may result in a diminished learning experience.

## Professional Scrum Developer Certification

All participants completing the Professional Scrum Developer course will receive a password to attempt the Professional Scrum Developer (PSD) assessment. PSD class participants who attempt the PSD I assessment within 14 days of receiving their free password and do not score at least 85% will be granted a second attempt at no additional cost.

## Course Outline

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### Fundamentals of the Scrum framework

- Scrum roles, artifacts, and events
- Complementary development practices

### Application Lifecycle Management

- Visual Studio ALM/DevOps Tools
- Azure DevOps Scrum process
- Planning/managing work using Azure Boards

### Emergent Architecture

- Fitness (fit) for purpose
- Avoiding upfront requirements and design
- Developing in slices, not layers
- Minimizing documentation

### Quality Code

- Quality code == quality software

TFVC or Git version control  
Branching and merging for Scrum Teams  
Supporting the various release models

### **Refining the Product Backlog**

Defining and assuring quality  
Definition of done  
Reporting bugs  
In-Sprint vs. out-of-sprint bugs  
INVEST and 3C techniques  
Agile estimation  
Wall estimation and Planning Poker techniques

### **Agile Testing**

Testing in parallel with coding  
Development, acceptance, and exploratory testing  
Unit testing in Visual Studio  
Test-Driven Development  
Analyzing code coverage  
Acceptance testing in Visual Studio  
Planning/managing testing using Azure Test Plans  
Acceptance Test-Driven Development

SOLID principles  
Clean code == quality code  
Code and test smells  
Code quality support in Visual Studio  
Code Analysis, Code Metrics, Code Clone Analysis  
Continuous Integration (CI)  
Automating builds with Azure Pipelines  
CI support in Azure Pipelines  
Continuous feedback and related tools  
Refactoring and refactoring tools  
Technical debt and how to pay it back

### **Scrum Challenges**

Getting done and avoiding undone work  
Running experiments (spikes)  
Cross-functional team collaboration  
Not changing Scrum  
Overcoming common dysfunctions & case studies  
Working with challenging team members  
Improving productivity  
Becoming a high-performance Scrum Team