

AGILE & Scrum

Amedeo Lepore | 07/05/2023

"Agile Methodologies and Scrum" is a comprehensive course designed to introduce participants to the principles and practices of Agile development frameworks, with a primary focus on Scrum. The course covers the Agile Manifesto and its twelve principles, emphasizing collaboration, flexibility, and iterative progress. Participants learn the key roles, artifacts, and ceremonies in Scrum, such as the Product Owner, Scrum Master, and Development Team, as well as the product backlog, sprint backlog, and sprint review. The course equips attendees with practical skills to apply Agile and Scrum concepts in real-world projects, fostering efficient teamwork, continuous improvement, and delivering high-quality products.

LEARNING OBJECTIVES

Understand the principles and values of the Agile Manifesto and explain the benefits of adopting Agile methodologies in SW development projects.

Differentiate between traditional and Agile project management approaches, identifying the advantages and potential challenges of each.

Describe the Scrum framework, its roles (Product Owner, Scrum Master, and Development Team), artifacts (product backlog, sprint backlog, and increment), and ceremonies (sprint planning, daily Scrum, sprint review, and sprint retrospective).

Apply Scrum practices to create and manage product backlogs, plan and execute sprints, and evaluate progress using metrics such as burndown charts and velocity.

Demonstrate effective communication, collaboration, and teamwork within a Scrum team, as well as with stakeholders, to ensure a shared understanding of project goals and priorities.

Employ Agile and Scrum techniques to adapt to changing requirements, manage risks, and continuously improve processes for more efficient and successful project outcomes.

Evaluate the suitability of Agile and Scrum for various types of projects and organizations, and identify potential barriers to implementation and strategies for overcoming them.

C'S OF EDUCATION

COLLABORATION

COMMUNICATION

CRITICAL THINKING

CREATIVITY

AGE GROUP

From 13 to 19

SCENARIO LANGUAGE

English

TOTAL DURATION

14 hours 15 minutes

SUBJECTS

CROSS CURRICULAR

DESIGN - TECHNOLOGY

DRAMA - ECONOMICS

INFORMATICS / ICT

PSYCHOLOGY

VOCATIONAL SUBJECTS - HANDICRAFT

S1: INTRODUCTION TO AGILE METHODOLOGIES

45
MINUTES

A1.1: Group discussion on traditional project management methodologies and their limitations

EXCHANGE & DISCUSS

C'S OF EDUCATION

CRITICAL THINKING

TOOLS

If necessary the quotes can be presented with a slideshow.

ROLE OF TEACHER

Teacher at the side

DESCRIPTION

All the students are asked to stand up. If they agree with a quote (said by teacher, another student or written on the board) they're invited to sit down.

45

MINUTES

Activity 1.2: Presentation on the Agile Manifesto and its twelve principles

INTERACT & INSTRUCT

C'S OF EDUCATION

COMMUNICATION

CREATIVITY

TOOLS

Presentation or Web-conferencing tool

DESCRIPTION

Students are required to present their group project findings in a mini-conference. Teachers assigns each student a role to play when presenting e.g. a politician, a researcher, an author.

45

MINUTES

Activity 1.3: Case study analysis of Agile implementation in real-world projects

INVESTIGATE & RESEARCH

C'S OF EDUCATION

CRITICAL THINKING

TOOLS

Interactive video tool

DESCRIPTION

The teacher shares a video with the students to which feedback questions, instructions or quizzes have been added. By analyzing the individual results on the platform of the tool, the teacher gets feedback on the understanding of the students.

S2: OVERVIEW OF SCRUM FRAMEWORK

45

MINUTES

Activity 2.1: Interactive lecture on Scrum roles, artifacts, and ceremonies

INTERACT & INSTRUCT

C'S OF EDUCATION

COMMUNICATION

CREATIVITY

TOOLS

Rubric tool

DESCRIPTION

"A fair activity is a chance for groups to present their project simultaneously. In the first part of the lesson, half of the class (formed by the sum of the halves of all the groups) present their product at their stands. The other half of the class plays the visitors' role and they listen and at the same time assess the speakers. The visitors can walk around as if they were on a real fair. After half-time the students swap roles."



Activity 2.2: Role-playing exercise to explore the responsibilities of the Product Owner, Scrum Master, and Development Team

EXCHANGE & DISCUSS

C'S OF EDUCATION

COLLABORATION

COMMUNICATION

CREATIVITY

TOOLS

Image based tools: image sharing tool, online whiteboard ; Multimodal production tools : digital pinboard, presentation tool; Knowledge organization and sharing tools: social bookmarking tool.

DESCRIPTION

Firstly student work in small groups on a certain topic assigned by the teacher. Then, they are divided into new groups and rotate between the stations teaching each other about the content they were working on.



Activity 2.3: Video analysis of a Scrum team in action

INVESTIGATE & RESEARCH

C'S OF EDUCATION

CRITICAL THINKING

DESCRIPTION

description

S3: SCRUM ARTIFACTS AND CEREMONIES



Activity 3.1: Hands-on workshop to create and refine a product backlog

CREATE

C'S OF EDUCATION

COMMUNICATION

CREATIVITY

TOOLS

Presentation or web-conferencing tool

DESCRIPTION

Students and teacher invite a real audience other than peers in the classroom, e.g. other classes of the school, parents, partner schools, an outside expert.

45
MINUTES

Activity 3.2: Sprint planning simulation, including defining sprint goals and estimating tasks

CREATE

C'S OF EDUCATION

COMMUNICATION

CREATIVITY

TOOLS

Rubric tool

DESCRIPTION

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"

45
MINUTES

Activity 3.3: Daily Scrum role-play and reflection on effective communication techniques

EXCHANGE & DISCUSS

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MINUTES

Activity 3.4: Sprint review and retrospective exercises to practice feedback and continuous improvement

PRESENT & SHARE

C'S OF EDUCATION

COMMUNICATION

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TOOLS

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S4: METRICS AND ADAPTATION IN SCRUM

45
MINUTES

Activity 4.1: Lecture on key Scrum metrics, such as burndown charts and velocity

INTERACT & INSTRUCT

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COMMUNICATION

CREATIVITY

TOOLS

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45
MINUTES

Activity 4.2: Group exercise on interpreting and applying Scrum metrics for project monitoring and adaptation

ASSESSMENT & FEEDBACK

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MINUTES

Activity 4.3: Case study discussion on Agile risk management and responding to changing requirements

EXCHANGE & DISCUSS

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S5: IMPLEMENTING SCRUM IN YOUR ORGANIZATION



Activity 5.1: Panel discussion with experienced Agile practitioners to share insights and challenges

PRESENT & SHARE

C'S OF EDUCATION

COMMUNICATION

CREATIVITY

TOOLS

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Activity 5.2: Self-assessment and reflection on personal Agile and Scrum competencies

ASSESSMENT & FEEDBACK

C'S OF EDUCATION

COMMUNICATION

CREATIVITY

TOOLS

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Activity 5.3: Group brainstorming on strategies for overcoming barriers to Agile and Scrum adoption in various organizations

EXCHANGE & DISCUSS

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S6: COURSE CONCLUSION AND NEXT STEPS

45
MINUTES

Activity 6.1: Final project presentation to synthesize course learnings and propose an Agile and Scrum implementation plan for a real or hypothetical organization

PRESENT & SHARE

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45
MINUTES

Activity 6.2: Course evaluation and feedback

ASSESSMENT & FEEDBACK

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45
MINUTES

Activity 6.3: Discussion on further learning opportunities and resources in Agile and Scrum

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