Boston University | Metropolitan College

MET CS634 Agile Software Development

agility by design

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BOSTON UNIVERSITY

Quick Guide

Welcome to Agile Software Development!

This course will provide you with a comprehensive overview of the principles, processes, and practices of agile software product management and development. Throughout the class, you'll gain an understanding of the drivers behind agility in software development and learn techniques for initiating, planning and executing on software development projects using agile methodologies. Over the next few weeks, you'll obtain practical knowledge of agile development frameworks and be able to distinguish between agile and traditional project management methodologies.

Our goal is to help you effectively apply and adapt agile tools and techniques in the software development lifecycle from project ideation to deployment, including establishing an agile team environment, roles and responsibilities, communication and reporting methods, and embracing change.

Whether you're new to agile or are an experienced agile practitioner, you'll uncover ways to help your organization transition to agile or improve and advance agile capabilities.

Let's get started!

Meet Your Instructor

Hi there! My name is Rachel Alt-Simmons, and I'm the instructor for MET CS634 Agile Software Development. I graduated from the MET-CIS master's program in 2006 and have been teaching in both the online and onsite classes for the past ten years. Several years ago, I developed and launched the first agile class at Boston University.

In my day job, I'm an design, analytics and technology professional with more than 20 years of experience developing and integrating business analytic and technology strategies within the financial services and insurance industries.

I'm currently Vice President, Program Enablement for the Strategic Analytics team at XL Catlin. In my role, I create organizational and operational runway related to the strategic use of enterprise analytics, as well as define integrated approaches to aligning business, operational, and technology strategies.

I'm a Certified Lean Six Sigma Master Black Belt, PMI Agile Certified Practitioner, PMI Project Management Professional, Certified ScrumMaster, and SAFe Program Consultant.

Helping people and organizations find true business agility is a passion of mine. In this class, we're going to separate out the hype from the true promise, understand the drivers behind the push for agility, and give you tools and techniques to start up or improve your agility.

Rachel Alt-Simmons

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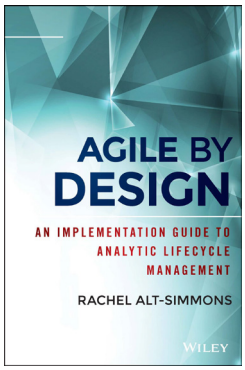
860-965-2367 (leave message or by appointment)



Course Objectives

Upon successful completion of this course, you will be able to:

Demonstrate an understanding of agile development philosophies and methodologies

- Understand agile development processes and the principles behind the Agile Manifesto
- Learn Scrum, Extreme Programming (XP), and Lean Development frameworks
- Develop an understanding of when to use agile methodologies (and when not to) and how to tailor agile practices for specific scenarios

Practice human-centric design in agile development

- Develop a product vision, customer journey, and roadmap
- Leverage agile architecture, analysis and design techniques
- Explore customer-focused methods for agile planning, monitoring, and adapting

Evaluate agile team-based practices used to create and deliver products

- Build out a backlog and user stories
- Identify Scrum roles, responsibilities and processes
- Evaluate quality management strategies and tactics

Develop a change leadership strategy to develop transformational agile capabilities in your organization

- Perform a retrospective on a real-world project
- Identify practices needed to enable an agile transformation
- Create a change leadership strategy to advance those practices within your organization

Explore advanced and emerging topics in the domain of software development

- Lean, value streams and kanban models
- DevOps and continuous deployment strategies
- Scaling agile processes

Course Logistics & Materials

We will engage on a weekly basis with support from our online learning management system.

Textbooks

There is one required text for the course. Other reading materials will be provided separately.

Rubin, K. (2013). Essential Scrum: A Practical Guide to the Most Popular Agile Process. Upper Saddle River, NJ: Addison-Wesley. ISBN-10: 0137043295 | ISBN-13: 978-0137043293

Course Grading

The course will be conducted by means of a sequence of lectures throughout the term. The class will explore agile software delivery topics through a series a combination of group and individual assignments, quizzes and a final exam. You'll be able to demonstrate your understanding of agile software development practices through these assignments. In the final week of the course there is a proctored comprehensive final exam.

All students will be expected to demonstrate knowledge of agile software development and relevant techniques. To obtain an exceptional grade you have to exceed expectations in your projects, quizzes and assignments.

If, for any reason, you are unable to meet any assignment deadline, contact your me in advance. All times mentioned in the course (unless otherwise specified) are in Eastern Time. All assignments must be completed and must be turned in by their due dates and due times. Extensions may be granted, though only under mitigating circumstances.

Course Deliverable	Grade Percentage
Quizzes (3 at 5% each)	15%
User experience deconstruction	10%
Product vision statement	10%
Product roadmap assignment	15%
User story development	5%
Retrospective assignment	10%
Agile transformation assignment	10%
Final exam	25%

Grading Structure

94> = A

90 - 93 = A-

87 - 89 = B+

84 - 86 = B

80 - 83 = B-

Our Journey

Introduction to Agile

Introduction to project management
The agile manifesto
Agile development frameworks
Project methodology selection
Which method is right for my organization?

Product Initiation and Visioning

Project / product initiation
Crafting a project vision
Visioning tools & techniques
Planning horizons

Creating the Product Roadmap

The product roadmap
The product backlog
Story mapping
Release planning

Agile Analysis & Architecture

Business analysis & design
Agile architecture & design
Wireframes & prototypes

The Scrum Framework

The Scrum Framework
Roles & Responsibilities

Our Journey

Estimation & Planning

User story development
Estimation & planning
Task definition
Velocity

Agile Quality Management

Intro to quality management
Common causes of defects
Technical debt
Traditional vs. agile testing
Test-driven development approaches

Adaptive Agile & Lean

Intro to continuous improvement and lean
Value streams
Kanban
Retrospectives
Tailoring your agile approaches

Change Leadership & EQ

Enabling the agile enterprise
Managing in an agile world
Self-mastery & EQ
Agile coaching roles

Advanced Agile

DevOps and continuous deployment strategies
Scaled Agile Framework (SAFe)