SYLLABUS

Course Name:	**Software Project Management (Advanced Topic)**
Course Code:	SWM501
No of credits:	03
Time Allocation:	*Study hours (150h)* - Online (45h) + Offline: 3 slots of mentors - Final assessment (3h) - Self-study (102h)
Prerequisite:	No

I. DESCRIPTION

The course is designed to equip students with the essential skills and knowledge required to excel as project managers. Through a series of courses, participants will gain familiarity with project management concepts, tools, and methodologies necessary for successful project execution. Led by industry expert Christy Bozic, PhD, PMP, this specialization delves into various aspects of project management, including project initiation, planning, execution, risk management, and Agile methodologies.

II. MAIN OBJECTIVES

- Develop an understanding of the role and responsibilities of a project manager.
- Gain proficiency in project initiation, including producing project charters and stakeholder analyses.
- Learn to effectively plan and execute projects, including scheduling, resource management, and budgeting.
- Acquire skills in risk management and quality assurance to ensure project success.
- Explore Agile project management principles and methodologies, including Scrum, sprint planning, and team dynamics.
- Apply learned concepts and tools to manage a small virtual project as part of the applied learning project.

Mapping CLOs to PLOs

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
CLO1	X								
CLO2	X	X	X						
CLO3		X	X	X					
CLO4				X			X		
CLO5	X	X							
CLO6			X						

III. TEACHING METHODS

In order to achieve the best course objectives, teaching methods and activities are used spontaneously, including:

- Video lectures: Engaging video content delivered by industry expert Christy Bozic, PhD, PMP, covering essential project management topics.
- Readings: Accessible materials providing deeper insights into project management concepts and methodologies.
- Quizzes: Regular quizzes to assess understanding and reinforce learning objectives.
- Peer reviews: Opportunities for peer evaluation and feedback to enhance understanding and collaboration.
- Hands-on projects: Application of learned concepts through the completion of a small virtual project

In addition, during the learning process, faculty can use different methods to achieve the teaching goals in the best way

IV. STUDENT'S TASK

- Students must complete 1 SPEC certification.
- Attend video lectures and engage with course materials regularly.
- Participate in quizzes to assess comprehension and reinforce learning.

- Collaborate with peers in peer review activities to enhance understanding and learning.
- Complete hands-on projects, including the applied learning project, to apply learned concepts in practical scenarios.

V. TEACHING & LEARNING MATERIALS

MOOC courses:

https://www.coursera.org/specializations/agile-development

VI. SCHEDULE

Module	Domain	Content	CLO
1	**Agile Meets Design Thinking**	**Problems Agile Solves** The agile practices that deliver excellent product are well understood, but they take focus, energy, and confidence to apply. This week, we'll identify what's hard about creating excellent products and how agile can help. We'll begin with a discussion of the Agile Manifesto- what motivated it and how it defines agile. Then we'll get into the practical part- the problems agile solves, how to focus your time and energy, and how you'll know if your practice of agile is working	CLO1, CLO5
2		**Focus Your Agile with Personas, Jobs-to-be-Done, and Alternative** The best way to avoid building something nobody wants is to start with somebody in mind. In the design world, we talk about that "somebody" through a 'persona'. Personas and problem scenarios (aka 'jobs-to-be-done') focus development on driving toward a valuable outcome for	CLO2, CLO5

		your user vs. just generating output. In this module, you'll learn to focus your work by developing personas, problem scenarios, and alternatives using best practices from design thinking**.**	
3		**Getting to Great Agile User Stories** Now we're going to transition from drafting personas and hypothesizing user needs to testing those assumptions and translating what you've learned into agile user stories. We'll step through how you create an interview guide to ask your users the right questions and then we'll dive into agile user stories. User stories are a standard feature of agile and serve as a day-to-day focal point for driving to value	CLO3, CLO5
4		**Focus on Customer Value with User Stories** The agile user story is your day-to-day focal point for making sure you're building something valuable for your user. It's how you discuss that within your team and how you anchor your subsequent testing. In this module, you'll learn how to facilitate the creation and use of stories within your team	CLO3, CLO6
5	**Hypothesis-Driven Development**	**How Do We Know if We're Building for a User that Doesn't Exist?** How do you go from backlog grooming to blockbuster results with agile? Hypothesis-driven decisions. Specifically, you need to shift your teammates focus from their natural tendency to focus on	CLO2, CLO5

		their own output to focusing out user outcomes. Easier said than done, but getting everyone excited about results of an experiment is one of the most reliable ways to get there. This week, we'll focus on how you get started in a practical way	
6		**How Do We Reduce Waste & Increase Wins by Testing Our Propositions Before We Build Them?** Nothing will help a team deliver better outcomes like making sure they're building something the user values. This might sound simple or obvious, but I think after this week it's likely you'll find opportunities to help improve your team's focus by testing ideas more definitively before you invest in developing software. In this module, you'll learn how to make concept testing an integral part of your product pipeline. We'll continue to apply methods from Lean Startup, looking at how they pair with agile. We'll look at how high-functioning teams design and run situation-appropriate experiments to test ideas, and how that works before the fact (when you're testing an idea) and after the fact (when you're testing the value of software you've released).	CLO4, CLO5
7		**How Do We Consistently Deliver Great Usability?** The best products are tested for usability early and often, avoiding the destructive stress and uncertainty of a "big unveil." In this module, you'll learn how to diagnose, design and execute phase-appropriate user	CLO3, CLO6

		testing. The tools you'll learn to use here (a test plan template, prototyping tool, and test session infrastructure) are accessible/teachable to anyone on your team. And that's a very good thing -- often products are released with poor usability because there "wasn't enough time" to test it. With these techniques, you'll be able to test early and often, reinforcing your culture of experimentation	
8		**How Do We Invest to Move Fast?** You've learned how to test ideas and usability to reduce the amount of software your team needs to build and to focus its execution. Now you're going to learn how high-functioning teams approach testing of the software itself. The practice of continuous delivery and the closely related Devops movement are changing the way we build and release software. It wasn't that long ago where 2-3 releases a year was considered standard. Now, Amazon, for example, releases code every 11.6 seconds. This week, we'll look at the delivery pipeline and step through what successful practitioners do at each stage and how you can diagnose and apply the practices that will improve your implementation of agile	CLO3, CLO5
9	**Product Analytics and AI**	**Introduction and Customer Analytics** Without an actionable view of who your customer is and what problems/jobs/habits they have, you're operating on a shaky foundation. This week, we'll look at how to pair your	CLO1, CLO6

		qualitative analytics on customer hypotheses with testable analytics	
10		**Demand Analytics** Why build something no one wants? It seems like an obvious question, yet a lot (probably >50%) of software ends up lightly used or not used at all. This week, we'll look at how to run fast but definitive experiments to test demand	CLO2, CLO3
11		**UX Analytics** Strong usability most often comes from ongoing diligence as opposed to big redesigns. Teams that do the hard work of consistently testing usability are rewarded with a consistent stream of customer wins and a culture of experimentation that makes work more enjoyable and rewarding	CLO4, CLO5
12		**Data Science and AI** The availability of big data and the ascendance of machine learning can supercharge the way you approach analytics. This week, we're going to learn how data science is changing analytics and how you can create a focused, productive interfaces to a data science capability.	CLO4, CLO6
13	**Manage an Agile Team**	**The Agile Team** This week we'll introduce the four fundamental jobs of software development to help you define what's important to your team and, hence, which of the many agile practices might make	ClO5, CLO6

		the most sense for you to try out. Then we'll talk about achieving alignment with your company while maintaining autonomy through an agile team charter. We'll close by stepping through the leading agile methodologies--Scrum, XP, and kanban. You'll finish the week with an understanding of how to pair what's important to your team with the best of what agile has to offer	
14		**Learning and Deciding** One of the most critical focal points for any team is facilitating a focus on outcomes over output. Without this, you'll never graduate from responding to requests about your to-do list of output to driving better user outcomes that move the needle for your company. This week, you'll learn how to define and prioritize what's important to your team in the areas of learning and deciding, and to pair those with relevant agile practices from Scrum, XP, and kanban	ClO5, CLO6
15		**Building and Managing** This week we'll dive into the jobs of building software and the core management jobs in running an agile team. Agile--and XP in particular--offers a rich body of work on specific coding practices. We'll step through a few of the most prominent and discuss key linkages with the other concepts and practices you've learned. On the job of managing, we'll dive deeper into what that means and what works in an agile context	ClO5, CLO6

16		**Practicing Agile** Now that you've learned about the four jobs of software development, you'll have a chance to think through how they relate to your work in this week's peer-reviewed assignment. You'll finish the course with a clear plan to accomplish the jobs of learning, deciding, building, and managing for your project	ClO5, CLO6

VII. ASSESSMENT

Conditions for taking the final assessment (FE): Students must complete all the modules and receive a course completion certificate provided by Coursera.
Course grade: The course grade is the weighted average of the following scores:

Assessment type	Symbol	Weight	How
ON-GOING (Coursera)	C	40%	Recorded by Coursera
FINAL ASSESSMENT (Assignment)	FE	60%	- The assignment given by the lecturer - Minimum score: 4/10
Course grade = C x 40% + FE x 60% Completion Criteria: Course grade>=5 & Final assessment >=4 (Score:10) Detailed assessment in the Appendix			

APPENDIX: DETAILED ASSESSMENT

Assessment Category	Assessment Type	Weight	Minimum value to meet completion criteria	Duration	Learning outcomes	Number of questions	Scope of knowledge and skill of question	How
Assignment	Final	60	4		CLO1-CLO6	1	Summary of the content of all topics	Evaluation based on the requirements of the question