Description

In this 3 credit, 15-week course, use proven methodologies in engineering project management to plan how to design, build, and test complex engineering systems. In the first of two projects, create a vision statement and bring it to life through a project charter, work breakdown structure, and Gantt chart. In the second project, learn how to implement Agile and Scrum principles to create a prioritized product backlog. This will enable the development of a product roadmap and release plan to strategically connect the work of multiple sprints.

Projects

Project 1: Traditional Engineering Project Management

Identify the need for a complex engineering project. Build a compelling vision statement and strong business case so that sponsors see the need to fund your project. Dive into details using systems engineering principles to develop a system map, product-led work breakdown structure (WBS) and a short-term execution plan. Establish engineering requirements and the triple constraint (time, cost, and scope), and schedule together for project success.

Project 2: Agile Project Management with Scrum

Propose a radical new engineering solution with your classmates and develop a long-term roadmap for implementation. Craft a vision statement to translate requirements into stories that embody the end user perspective and system performance parameters. Then, leverage estimation and dynamic team strategies to prioritize user stories and create a product release plan: the foundation of Agile project management with Scrum.

Features

Live, online synchronous sessions with the instructor and professionals from various industries are scheduled every 2-3 weeks throughout the semester. These sessions are designed to cultivate your understanding of course concepts and guide your approach as you gain insights from others’ experience.

Outcomes

Completion of the course enables you to:

- Select project management approaches to reduce complexity and uncertainty.
- Establish project direction through a written vision statement.
- Characterize the relative influence and support of stakeholders.
- Create realistic time and budget estimates.
- Use system mapping as a tool to address problems, provide insights, and propose solutions.
- Use Agile and Scrum principles to deliver value to customers early and often.
- Develop a roadmap for project deadlines and deliverables.

Technology

This course is offered through the RensselaerStudio, providing ease of access to all course technologies and software required, any time, any where. Live synchronous sessions are held throughout the course via Zoom.