SYSTEMS DESIGN CERTIFICATE

Program Description

Whether you're developing a software stack or engineering bridges, the need for leaders who can design, develop, and manage complex solutions and systems over their lifecycle is rapidly growing. Drawing on an interdisciplinary systems design approach that can be applied to any field, this program will guide you through the process of developing documentation for any system, from initial scoping through detailed design. You'll learn to define the challenges you are trying to solve, define functional requirements, and objectively measure the value of any potential solution. After understanding the purpose, intent, and audience for the project, you will utilize fundamental systems architecture techniques to develop a deeper understanding of how all of the components of the solution work together.

At the completion of the certificate program, you will come away with not only a practical understanding of how to meet the most stringent requirements for design documentation and manage risk across potentially complex projects, but will have a more profound understanding of the big picture, including how each system tool that you invest time in can provide the maximum benefit throughout the design process. Appropriate for engineers, technology leaders, and anyone with a desire to lead a product or systems design process, the concepts learned will help you successfully manage team interactions, client relations, and your own solutions architecture workflow.

Key Takeaways

- Lead the design process to develop systems and solutions
- Define key design parameters and assess the impact of each parameter
- Capture design use cases
- Benchmark against competitors
- Identify and track interfaces and interrelationships between elements throughout the design process
- Define formal, verifiable requirements for a solution
- Map system functions as a functional flow
- Complete an assessment of likelihood, impact, and overall risk
- Identify points of uncertainty and potential points of failure in a solution
- Determine measurement criteria for effectiveness and interpret results

What You'll Earn

- Systems Design Certificate from Cornell Engineering
- 70 Professional Development Hours (7 CEUs)

Who Should Enroll

- Engineers and engineering managers
- Team leaders who direct technical projects or teams
- Technical and IT leaders
- Solutions architects
- Professionals looking to improve their ability to design and develop systems and solutions architecture

Total Investment

- 3.5 months to complete all the courses

How to Enroll

For more information on how to enroll, please visit Systems Design Certificate

The courses in this certificate program are required to be completed in the order that they appear.

Courses

Code	Title	Hours
eCornell CESYS52	Defining Scope	0
eCornell CESYS52	Developing System Requirements	0
eCornell CESYS521	Exploring Your System's Architecture	0
eCornell CESYS52	Assessing Your System's Performance and Value	0
eCornell CESYS525	Implementing the Quality Function Deployment Method	0
eCornell CESYS52	Defining Interfaces	0
eCornell CESYS527	Identifying and Evaluating Risk	0