

COURSES

design4X takes validated content created by domain experts and transforms it into accredited multimedia courses. These courses include animations with synchronized streaming video, audio, and thoughtfully designed interactive exercises. The courses are viewed in our specially designed environment that captures all of the positive attributes of a live seminar but retains the "anytime, any place, any pace" power of the internet.

Our courses are delivered using a platform that allows online registration, as well as student testing and tracking for corporate clients. design4X offers an expanding catalog of courses and custom services in the areas of product and process development and manufacturing. The courses we currently are working on developing are listed below. In addition, we work with companies to develop customized courses.

Course Benefits

- Six months of access and updates
- Access anywhere and anytime
- Video, animations, voiceovers, interactive exercises, and tests designed to maximize learning while minimizing time
- Tutor support
- Full range of resources:
 - glossary
 - templates & spreadsheet tools
 - links to research papers
 - related industry links
 - step-by-step checklists
 - discussion forums
 - CD's available for frequent travelers
 - full transcript

Business Skills for Engineers

Engineers often lack training in the fundamentals of business and finance that can help them in the workplace. Understanding accounting, net present value, organizational behavior, and other issues can make them more productive. This course will cover these topics and more.

Collecting Customer Requirements

This course focuses on methods to collect and analyze customer requirements. It will cover details on how to determine markets, whom to interview, and how to analyze the data.

Concept Generation & Selection

This course covers methods to generate product concepts and ensure that the widest range of ideas are considered. In addition, it teaches a structured concept selection method, which has proven to help engineers and product development teams choose the best concept among many.

Creating Innovative Solutions in Design

Developing new, innovative solutions is difficult, especially when your team members have been working in the same industry for years. This course will help product development teams think outside of their domain and develop better ideas.

★ Customer-Focused Design Using QFD

(Now available)

This course will help the engineer and manager increase the quality and performance of their product by creating a customer-focused design. It teaches the Quality Function Deployment (QFD) method. QFD accomplishes this increased quality by flowing down the customer requirements to the component design, filtering and communicating the important product development data, guiding benchmarking efforts, guiding the allocation of design resources, and aiding in the budgeting of final product costs among the various components. – Price: \$55 / \$165

design for Assembly

This course covers the basics of designing a product for easy assembly. It includes software tools to compare different designs for ease of assembly.

design for Disassembly

This course will cover methods to design a product for easy disassembly and recycling. Included will be coverage of takeback laws and other environmental regulations worldwide which affect a product's design.

design for Environment

Environmental regulations and customers are dictating more eco-friendly designs. This course teaches methods to design products for minimum impact on the environment using the Eco-Indicator software. This software is an assessment method based on which accounts for human health, ecosystem, and resource depletion issues.

design for the Supply Chain

Understanding the supply chain (both upstream and downstream) is important to all designers. This course carries this knowledge one step further by giving the engineer methods to design products for the supply chain; accounting for different issues which can affect the cost of the product.

design for X (Life-Cycle Design)

This course covers product development management, starting with the collection of customer requirements, to the flowdown to engineering metrics, design for manufacturability, and design for the supply chain. It touches upon the whole range of design methods and shows how they are related and how teams can leverage the methods off each other.

Entrepreneurial Product Development in Large Companies

One difficulty in large companies is developing an entrepreneurial spirit that enables the development of breakthrough ideas. 3M is one large company that has overcome this. This course will cover approaches to creating and maintaining entrepreneurial development teams within large organizations.

Error-Proofing

(In production)

Error-proofing, also known as Poka-Yoke in Japan, is a method to reduce manufacturing and design errors. This course teaches a detailed step-by-step method for diagnosing and applying error-proofing techniques and includes numerous examples.

Failure Modes and Effects Analysis (FMEA)

Creating a failure modes analysis for a product is critical – and is required by law for some industries. This course teaches practical methods for determining potential failure modes of a product, in both the manufacturing and use stages. Also covered will be methods to help mitigate those potential failures.

🌟 How Everyday Things are Made

(Now available at <http://manufacturing.stanford.edu>)

If you've ever wanted to learn, and see videos, of how things such as motorcycles, cars, planes, chocolate, steel, glass, etc are made then this is the course for you. It's free for all and is available on Stanford University's website.

Introduction to Supply Chain Management

The basics of supply chain and supply chain management are taught. The course will cover issues dealing with inventory, lead times, uncertainty, reorder points, among other issues.

Project Risk Management

Companies are interested in methods to analyze risk. This course will provide techniques to evaluate risk within a project and will help determine and eliminate risks that occur in product development projects.

Product Architecture Development

Creating product platforms that can be easily leveraged for follow-on designs involves a lot of planning. This course covers a method to develop a modularized and standardized product architecture that will increase the reuse of your current design on future products.

Rapid Visualization

An important communication tool for designers is the ability to sketch out their concepts quickly and clearly. This course will teach some basic techniques for sketching objects.

Statistics for Product Development

The fundamentals of design of experiments (DOE) and Taguchi analysis as applied to product development will be covered. These tools can dramatically reduce the amount of time to conduct multi-factor experiments.

System Dynamics Applied to Product Development

Systems dynamics was pioneered as an approach to analyzing complex systems. This course teaches the use of system dynamics modeling techniques for management of product development projects, including large-scale engineering and construction projects.