



E-Learning Module Learning Outcomes

Each eLearning module has a set of learning outcomes. These outcomes are listed below. [Module assessment outcomes](#) for each module that are used in direct assessment are a subset of these learning outcomes.

Thinking Creatively to Drive Innovation

- Describe the meaning of creativity, a rare but achievable form of thinking
- Explain the observation that creativity is influenced much more by nurture than nature
- Describe the universality and power of the divergent-convergent thinking process
- Apply the Medici Effect when forming teams
- Apply the Ask-Ask-Ask method
- Apply the Fishbone Diagramming method
- Apply the Mind Mapping method

Learning from Failure

- List common mistakes in the product development cycle for real world projects
- Develop a list of practical options to correct or avoid potential mistakes that may occur in specific projects
- Explain the potential risks of failure and proposed solutions in terms familiar to various stakeholders
- Provide recommendations for deciding when to stop a project or when to continue it
- Extract practical lessons learned by reviewing case histories of failures

Cost of Production and Market Conditions

- Identify the market scenarios for a product
- Analyze the effects of different business models
- Describe the nature of the firm that will be best for the product and its environment
- Describe the behavior of costs in the short run and long run production
- Identify economies of scale and disc-economies of scale through long run cost curves
- Apply various methods to suggest a selling price based in the costs of production
- Describe different market structures
- State the characteristics of the long tail and internet markets

The Elevator Pitch: Advocating for Your Good Ideas

- Identify the value proposition of a product or service from the point of view of a variety of stakeholders
- Articulate the criteria that yield an effective pitch
- Outline a process for developing elevator pitches
- Implement strategies for recovering from an unsuccessful pitch experience

Building, Sustaining and Leading Effective Teams and Establishing Performance Goals

- Identify success factors at each stage of the team development process that influence productivity
- Differentiate between consensus and compromise
- Examine individual preferences' dichotomies found in a personality comparison instrument
- Identify factors that influence actions and decision-making
- Recognize four different viewpoints used to reach consensus
- Relate the importance of team and individual performance to reaching overall objectives
- Design a performance plan
- Identify ways to address conflicts in teams most productively



Applying Systems Thinking to Complex Problems

- Define system, systems architecture, and system engineering
- Decompose system hierarchy to at least four levels
- Define any system from various perspectives, including technical feasibility, value risk, and societal impact
- Describe four methods of developing a system architecture
- Apply the heuristic architecting method to develop a system architecture

Developing a Business Plan That Addresses Stakeholder Interest, Market Potential and Economics

- Identify an innovative and differentiated business concept
- Develop a strategy for returning value to economic stakeholders
- Construct a business's value chain, showing the company's operational flow
- Assess a business market opportunity, including competitive positioning
- Develop market entry, growth and exploitation strategy
- Develop key business plan assumptions and simulate business performance
- Utilize resources to prepare valuable business plans

Role of Production in Value Creation

- Describe each element of the total product concept
- Apply the Product concept to past product successes and failures
- Define the concept of value
- Explain the value proposition canvas
- Relate the Product concept to the value proposition canvas
- Evaluate value creation using the value proposition canvas

Adapting a Business to a Changing Climate

- Explain the ways in which new and existing firms are impacted by changing business conditions
- Describe the various factors that make up market/business conditions
- Perform environmental scanning on the business environment
- Describe ways in which firms deal with changes in its business environment
- Explain the mindset and characteristics of those people (and organizations) that survive and thrive given challenges and setbacks

Defining and Protecting Intellectual Property

- Classify valuable physical and intellectual assets
- Explain why intellectual property (IP) assets are important to a company's valuation and its stakeholders
- Employ methods to protect valuable trade secret and confidential information IP assets
- Use trademarks, industrial designs, and copyrights to protect brand value
- Describe how to file patents

Resolving Ethical Issues

- Assess, and later reassess, your position on an ethics scale
- Define ethics in the context of professional settings
- Explain why ethical behavior and the trust it engenders are essential for all engineers especially entrepreneurial engineers
- Analyze ethical dilemma case studies and explain who resolved them and how
- Apply three methods for resolving ethical dilemmas



Generating new ideas based on societal needs and business opportunities

- Differentiate between an idea and an opportunity
- Describe how to identify new business opportunities by observing social and environmental trends
- Recognize how to find business opportunities through identifying needs and offering viable potential solutions
- Explain how identifying gaps in the marketplace can lead to finding viable business opportunities
- Describe a variety of techniques that can generate ideas of value