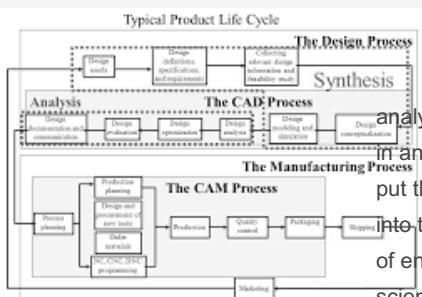


UNIT !

product life cycle begins with the need of customer's and market's demands. the two main processes include design and manufacturing. **sub process of design** includes synthesis and analysis and **sub process of manufacturing** includes process planning and production.

product life cycle image



phases in product cycle

design phase manufacturing phase

philosophy, functionality and uniqueness of the product falls under synthesis

phases in product cycle (cont)

during synthesis the design takes the form of sketches or 3d representation to show the relation between various product parts.

analysis begins in an attempt to put the concept into the context of engineering science application to evaluate the performance of the product and it is achieved by modelling and simulation.

the outcome of analysis and design is the design documentation in the form of engineering drawings

market feedback is usually done under the design process, with this feedback the product loop cycle is closed.

design process

the panner works with blueprints from the design team and may communicate to clarify changes in the design to fit manufacturing methods

ENGINEERING DESIGN PROCESS

CONCEPTUAL DESIGN	EMBODIMENT DESIGN	SHIGLEY'S DESIGN PROCESS
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identification of customer needs	production architecture	recognition of need
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problem definition	config design	definition of problem
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gathering info	parametric design	analysis and optimization
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conceptualization		evaluation
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concept		presentation
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engineering design is a multistep process including the research, conceptualization, feasibility assessment, establishing design requirements, preliminary design, production planning, and tool design and enters the reproduction phase.



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