



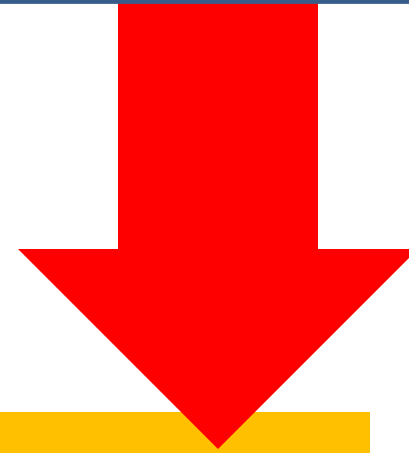
Understand Fundamental Concepts and Trends of Drafting

Objective 1.01 Understand BIM, and Rapid Prototyping.

Objective 1.02 Understand Industrial Design, Sustainable Design, and LEED.

What is BIM?

Building Information Modeling



What is BIM? (Building Information Modeling)

BIM -- Building Information Modeling -- is very much talked about in the building industry, but what is it really, what is it useful for, and who should use it?

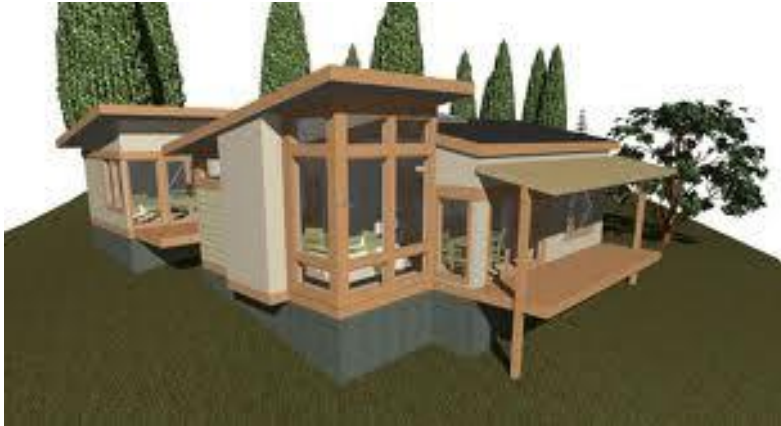
<http://www.youtube.com/watch?v=5Qj9pl5us7o>

Building Information Modeling (BIM)

This video illustrates the powerful capabilities of Building Information Modeling (BIM) to streamline the design process. BIM seamlessly bridges gaps in communications between owners, architects, engineers, and contractors by giving visual representation of potential issues and allows for faster, more accurate resolutions.

<http://www.youtube.com/watch?v=hgyhRk8smkk>

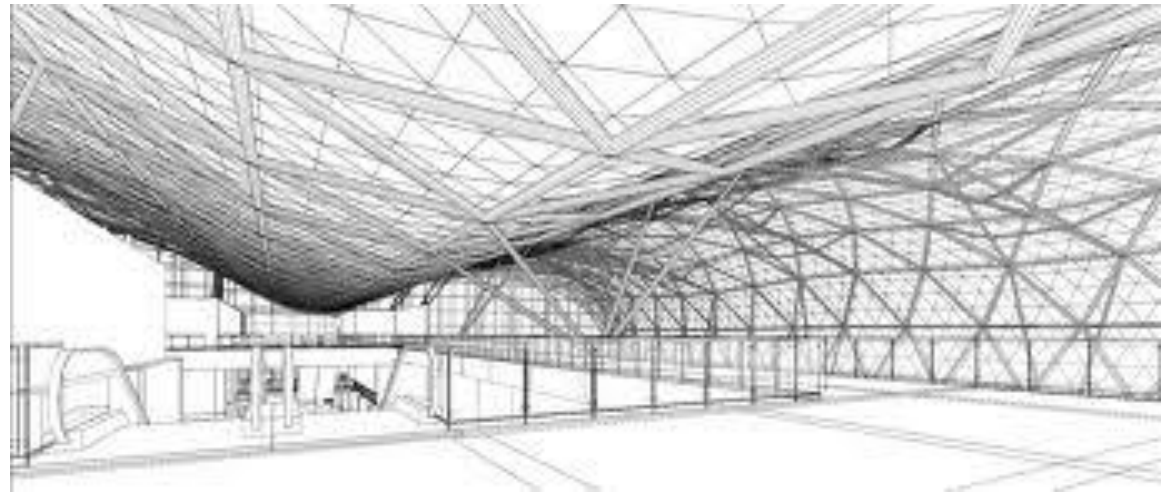
BIM bridges the gap in communication between owners, architects, engineers, and contractors by giving visual representation of potential issues and allows for faster, more accurate resolution.



BIM creates a 3D digital model of an actual building that allows you to simulate the building before actual construction begins.

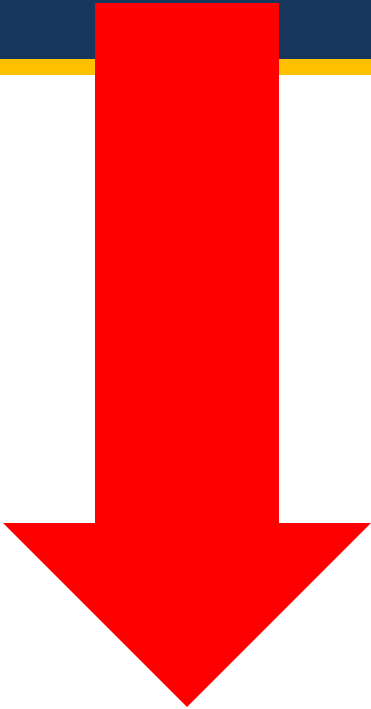
Benefits of using BIM

- Communication (between all trades)
- Creates digital prototype
- Allows for various design options
- Predicts building performance
- Allows for shop fabrication of contents
- Provides data management (schedules, building cost, future management cost)



What is Rapid Prototyping?

3 dimensional printer



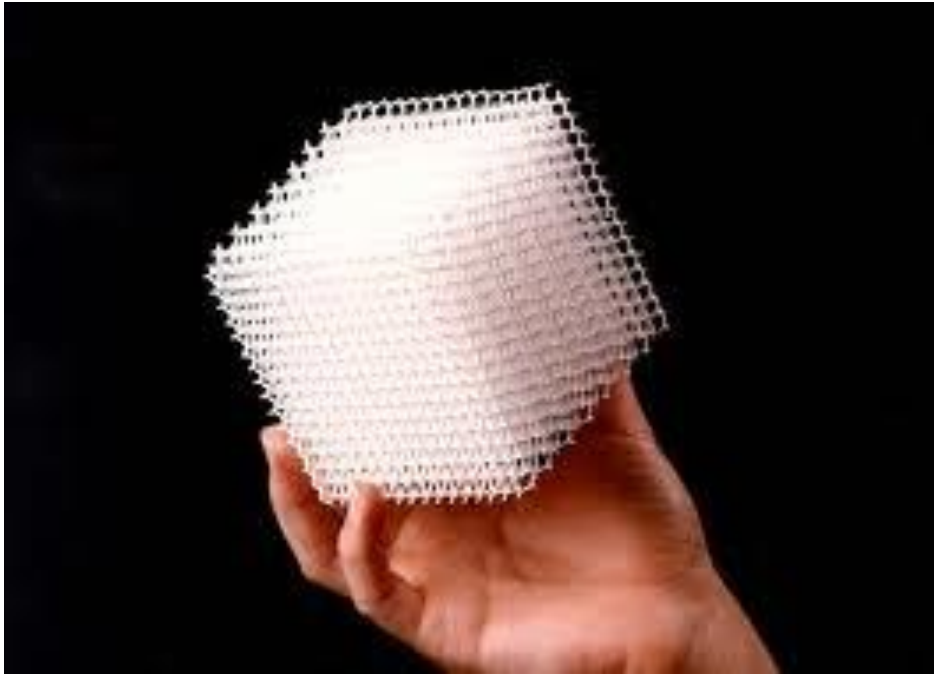
NEW VIDEO – Check it out!!!!

Will 3D Printing Change the World?

<http://unctv.pbslearningmedia.org/resource/b9194612-d6e7-4307-b08c-9c2857956713/will-3d-printing-change-the-world/>

Rapid Prototyping

<http://www.youtube.com/watch?v=nwQ5HA8sE-k>



Rapid Prototyping is a 3D printer that produces a 3D model of an object so clients can determine if the part meets their needs before continuing production.

How does it work:

A CAD drawing is divided into “slices”. The drawing is transformed into layers on a platform with a plastic resin to create the gradual buildup that creates the 3D object.



What is Industrial Design?
use of both applied art and science
to improve aesthetics, ergonomics,
functionality, and/or usability of a
product.

Ergonomics: an applied science concerned
with designing and arranging things people
use so that people and things interact most
efficiently and safely.

Industrial Design

<http://www.youtube.com/watch?v=786tY1hAy9U>



Qualities need to be an Industrial Designer

- good visual communication skills
- good business skills
- ability to use research to create design
- Be able to understanding mankind and how products effect their life

What is LEED?

Leadership in Energy and Environmental Design

What is LEED? (Leadership in Energy and Environmental Design)

This video explains the basics of LEED certification and LEED accreditation. If you are serious about learning more about LEED and getting into a green career

<http://www.youtube.com/watch?v=DTIZBFeF2Nc>

Green Building rating system – third party verification for the design, construction, and operation of superior green buildings.



What is Sustainable Design?

ways to reduce the impact of products on the environment

5 Principles of Sustainability

- **Cyclic** = recycle materials
- **Solar** = renewable energy
- **Safe** = nontoxic
- **Efficient** = less of material & energy
- **Social** = good for people

5 Principles of Sustainability Design

The three layers of sustainability and the five principles to reduce the impact of products on the environment.

<http://www.youtube.com/watch?v=gmpdqOerOF4>

