Matters of great concern should be treated lightly.
Matters of small concern should be treated seriously.
Relevant Readings

Watch the film Objectified

http://www.objectifiedfilm.com/
The Genesis of Design

There is a lot of design history that is GREAT, but we’re going to skip over it...

Egyptians

Greek

Baroque

Modern

Chinese

Japanese

Persian

Greek

Romantic
Louis Henri Sullivan (September 3, 1856 – April 14, 1924) was an American architect, and has been called the "father of skyscrapers."[1] He is considered by many as the creator of the modern skyscraper, was an influential architect and critic of the Chicago School, was a mentor to Frank Lloyd Wright, and an inspiration to the Chicago group of architects who have come to be known as the Prairie School.

http://en.wikipedia.org/wiki/Louis_Sullivan

Famous for modern skyscraper design and the phrase:

“Form follows function”

But what does that mean?
The Genesis of Design

Louis Sullivan coined the phrase "form ever follows function", which, shortened to "form follows function," would become the great battle-cry of modernist architects. This credo, which placed the demands of practical use above aesthetics, would later be taken by influential designers to imply that decorative elements, which architects call "ornament," were superfluous in modern buildings. But Sullivan himself neither thought nor designed along such dogmatic lines during the peak of his career. Indeed, while his buildings could be spare and crisp in their principal masses, he often punctuated their plain surfaces with eruptions of lush Art Nouveau and something like Celtic Revival decorations, usually cast in iron or terra cotta, and ranging from organic forms like vines and ivy, to more geometric designs, and interlace, inspired by his Irish design heritage.

http://en.wikipedia.org/wiki/Louis_Sullivan
Bauhaus was a school in Germany that combined crafts and the fine arts, and was famous for the approach to design that it publicized and taught. It operated from 1919 to 1933.

One of the main objectives of the Bauhaus was to unify art, craft, and technology. The machine was considered a positive element, and therefore industrial and product design were important components. Vorkurs ("initial" or "preliminary course") was taught; this is the modern day "Basic Design" course that has become one of the key foundational courses offered in architectural and design schools across the globe. There was no teaching of history in the school because everything was supposed to be designed and created according to first principles rather than by following precedent.

http://en.wikipedia.org/wiki/Bauhaus
The Genesis of Design

Dieter Rams

Rams studied architecture at the Werkkunstschule Wiesbaden as well as learning carpentry from 1943 to 1957. After working for the architect Otto Apel between 1953 and 1955 he joined the electronic devices manufacturer Braun where he became chief of design in 1961, a position he kept until 1995.

- hugely influential on current design
- emphasizes simplicity
- “as little design as possible”


10:30 - Dieter Rams
The Genesis of Design

Rams' ten principles to "good design"

Good design:
■ Is innovative
Rams states that possibilities for innovation in design are unlikely to be exhausted since technological development is always offering new opportunities for innovative design. He also highlights that innovative design always develops in tandem with innovative technology and can never be an end in and of itself.

■ Makes a product useful
A product is bought to be used. It has to satisfy certain criteria, not only functional, but also psychological and aesthetic. Good design emphasises the usefulness of a product whilst disregarding anything that could possibly detract from it.
The Genesis of Design

- Is aesthetic
  Only well-executed objects can be beautiful. The aesthetic quality of a product is integral to its usefulness because products used every day have an effect on people and their well-being.

- Makes a product understandable
  It clarifies the product’s structure. Better still, it can make the product clearly express its function by making use of the user's intuition. At best, it is self-explanatory.

- Is unobtrusive
  Products and their design should be both neutral and restrained, to leave room for the user’s self-expression. Products fulfilling a purpose are like tools and are neither decorative objects nor works of art.
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- **Is honest**
  Honest design should not attempt to make a product seem more innovative, powerful or valuable than it really is. It should not attempt to manipulate the consumer with promises that cannot be kept.

- **Is long-lasting**
  It should avoid being fashionable and therefore never appears antiquated. Unlike fashionable design, it lasts many years – even when the trend may be in favor for disposable products.

- **Is thorough down to the last detail**
  Dieter Rams states that nothing must be arbitrary or left to chance in the design of a product since care and accuracy in the design process show respect towards the consumer.
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- Is environmentally friendly
  Good design should make an important contribution to the preservation of the environment by conserving resources and minimizing physical and visual pollution throughout the lifecycle of the product.

- is as little design as possible
  Dieter Rams makes the distinction between the common "Less is more" and his strongly advised "Less, but better" highlighting the fact that this approach focuses on the essential aspects thus, the products are not burdened with non-essentials. The desirable result would then be purer and simpler.

I think the Macbook Pro follows these rules:

- designed for decommission (aluminum case)
- usability a focus of the OS
- less, more durable parts
- trackpad is the button - simplicity, less but more
- neutral colours, no advertising on the product other than the apple light
- thorough to the last detail - look at the internal design of the mother board - or a Mac Pro desktop
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What are some products that you think try to follow Dieter Rams’ rules of good design?

- Braun
- IKEA - great design, but poor quality materials
- BMW - attention to detail, quality
- Ford F150 - engine noise design
- Dyson Vac - innovative ball design
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Objectified

Looking at the opening sequence of Objectified

What are the roles an engineer would have in creating this chair?

- chemical engineer designs the plastic
- mechanical engineer designs the moulding process - moulds, structural design of the chair
- system engineer designs the factory layout, systems interaction
- mechatronics engineer designs the robots
- logistics, management science aspects, software, marketing, etc...
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From the moment you wake up almost everything you interact with has been designed.

WE EVEN DESIGN CARROTS

...pretty much everything is designed...

http://www.pnas.org/content/105/5/1431
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- new design metaphor: form no longer follows function

Think of an iPhone - imagine giving an alien an iphone would they be able to tell what it’s for?

- products come into being because a company is writing a cheque, not because there is a new problem we need to solve.

Alice Rawsthorn
The Genesis of Design

Dyson Vac
- expresses function boldly

Dirt Devil Kone
- hides practical function while adding sculptural function

Roomba
- allows user to define their own functions
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With the development of the modern computer there is a big shift from developing physical objects to designing software...

- a chair reveals its function readily, you sit on it
- software is not so obvious, it requires some expertise by a user
- this is the HUGELY important field of interaction design
- human factors and interaction design are big topics in SYDE
After seeing this aspect of the design world, what does your role as an engineer look like?

Are there clearly defined roles? Could your skills give you a unique insight into product design?
The Genesis of Design

What I ((Matt Borland) so take that for what it’s worth) think you should do to be a better designer:

- Recognize your strengths and limitations and work with others who compliment your skill to create new products.

- Integrate art, fashion, culture, and other things into your design skill set. Even if you aren’t in charge of the “art-part” of the product, being aware of it while doing the more technical aspects will allow for better collaboration and in the end a better product.

- Design with emotion and passion.
The Genesis of Design

- the best table I’ve ever made
Which values do I (Matt Borland) manifest in my designs.

- the importance of process
- natural, organic beauty
- honouring tradition
- acknowledging my influences
- environmental awareness
- simplicity
- designing for quality
The Genesis of Design