

# Materials and Experimental Design Assaf Eshet

This course explores the use of unique materials in applied design and manufacturing. An important part of designing a new product is to understand the added value that can be achieved by exploiting new materials and scientific opportunities. The course presents an overview of cutting edge materials, working closely with the Material ConneXion library in NY, enabling the students to familiarize themselves with new potential components in their work. Students will learn the importance of implementing materials into products with performance, aesthetics and sustainability in mind. For their final project students will conduct a personal hands-on research, collaborating with a NYC chocolate manufacturer to discover new designs, implements and experiences using chocolate.

## Syllabus

### **Class 1 – 09.12**

- A Short introduction.
- Overview presentation about the importance of materials in the design process.
- Going over the Syllabus.

### **Class 2**

- A visit to Material ConneXion library
  - Get to know innovative materials
  - Sourcing materials
  - What is the potential?
  - Books and articles
- An introduction to a short assignment.

### **Class 3**

- A presentation of the students' assignments.
- An open discussion about materials and objects.
- Introducing the final project
- Group assignment

#### **Class 4**

- Factory visit - A guest lecture on site.

#### **Class 5**

- Presenting a group assignment.
- Presentation and discussion about students' works

#### **Class 6**

- Visit to the factory – TBD / Design and discovery workshop.

#### **Class 7**

- A group presentation of personal research outcomes - first 20 percent - Intuitions, gut-feeling design experiments.
- Create a starting point and focus the observation.

#### **Class 8**

- A one-on-one discussion about students works – understanding the potential, defining the promise.

#### **Class 9**

- Presenting the observation and creations to class and collecting feedbacks; How to proceed with the experiments? What is my next phase?

#### **Class 10**

- Design workshop

#### **Class 11**

- Design workshop

#### **Class 12**

- Design workshop

#### **Class 13**

- Design workshop

## **Class 14**

- Final presentations of study and design outcomes at the factory.

## **Class Schedule (Mondays):**

Class 1: September 12

Class 2: September 19

Class 3: September 26

Class 4: October 3

Class 5: October 17\*

Class 6: October 24

Class 7: October 31

Class 8: November 7

Class 9: November 14

Class 10: November 21

Class 11: November 28

Class 12: December 5

Class 13: December 12

Class 14: Wednesday, December 14 \*

## Grading:

- 20% Class Participation/Attendance
- 20% Short-projects
- 20% Personal progress and participation
- 40% Final Project

## Textbooks:

- Materials and Design, Second Edition: The Art and Science of Material Selection in Product Design - Michael F. Ashby, Kara Johnson.
- Exploring materials creative design for everyday objects
- Materials for Inspirational Design - Chris Lefteri (Author)
- Skin: Surface, Substance, and Design - Ellen Lupton
- Desire: The Shape of Things to Come - R. Klanten, S. Ehmman
- Limited Edition: Prototypes, One-Offs and Design Art Furniture- Sophie Lovell
- Folding Techniques for Designers: From Sheet to Form - Paul Jackson
- Transmaterial 1,2,3 - Blaine Brownell
- Manufacturing Processes for Design Professionals - Rob Thompson
- The Evolution of Useful Things: Henry Petroski

## Office Hours:

Mondays from 06:00-07:00pm.

### **Contact:**

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Be ready to be wrong, be consistent, be unorthodox and enjoy the way!  
Have a great semester,  
Assaf