

The slide features a solid blue background. On the left and right edges, there are decorative patterns of overlapping chevron shapes in yellow, magenta, and light blue. The text is centered in the upper half of the slide.

Topic 6

Designing with Forces

Design

- Designers rely on three methods to help structures withstand forces
 1. Distribute the load throughout the structure
 2. direct the forces along angled components
 3. Shape the parts to withstand the force

Problem 1

- **Rectangular frames** can be easily pushed out of shape

Problem 2

- **Horizontal beams often bend in the middle if they are carrying a load**

Problem 3

- **Large solid beams are very strong, but very heavy.**

Strengthening Structures

- **Friction works** between **two objects** and can stop them from moving
- **Friction is very important in wood structures**, where the pieces are fastened together