

Last classes: Design & Prototyping, Materials

Technical design, Industrial design, Product design,

User-centered design, Human-centered design, Participatory design,

Looks-like/works-like, Rapid prototyping, Organisational prototyping

Tension, compression, shear stress, torsion

Deflection of beams

Internal stresses and machining operations



FIG 161





Pairs: joints that permit relative motion

revolute, prismatic, cylindrical, spherical, screw





Pairs: joints that permit relative motion

Higher/lower, closed/unclosed



6 Types of Synovial Joints

Plane / GlidingHingeBall-and-SocketSaddlePivotEllipsoid





Kinematic link: rigid body with two or more pairs



Kinematic chain:

several links that form constrained motion when one link is fixed

ISONS

Training Wheels allow e the feel of balancing on hg wheels, while at the ma back-up plan if they





Machine: useful mechanism(s)!



number of independent parameters that define a system's configuration

Motion

planar: translational, rotational

spherical

helical

phase, cycle, period

Exact constraints:

exactly constrain all 6 degrees of freedom of a rigid body in space

how you like dem balls









Double-Rocker



4 bar linkages







HOE'S ONE-CYLINDER PRINTING PRESS.







Fig.2









belts, chains











https://www.youtube.com/user/thang010146/videos











wear-compensation

replaceable parts

Mechanical computers!

https://www.youtube.com/watch?v=s1i-dnAH9Y4



Assignment for next week:

Model, animate, and prototype a mechanism

(as useful to your final project)