Mechanics and Machines, Lecture 2

Intro to Theory of Mechanisms and Machines

Links, Joints (Kinematic pairs)

Kinematic chains, Degrees of Freedom, Mobility

INNOPOLIS UNIVERSITY

Mechanisms and their elements

Terminology

Mechanism

It's an artificially created system of bodies designed to transform the movement of one or several bodies into the required movements of other bodies.

Link

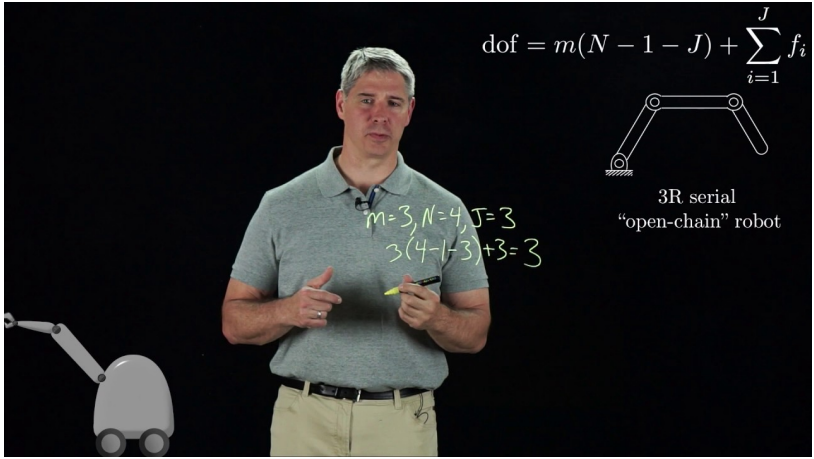
Rigid body

Joint

A permanent contact (connection) between two links.

Degrees of Freedom

Video



Reference material

- *"Mechanisms and Machines: Kinematics, Dynamics, and Synthesis" Michael M. Stanisic, pdf pages 21–56* **1.1 — 1.6**
- *"Theory of Machines and Mechanisms" John J. Uicker, pdf pages 33–59* **1.4 — 1.7**
- *"Design of machinery" Robert L. Norton, pdf pages 57–79* **2.0 — 2.11**
- *"Механика. Теория механизмов и машин" Конищева О. В., pdf pages 7–23*
  Структурный анализ и классификация плоских механизмов
- *"Теория механизмов и машин" Артоболевский И. И. 1988, pdf pages 21–63*
  Структурный анализ и классификация механизмов

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Room 105 (Underground robotics lab)