Robot dynamics using Newton-Euler:  
<http://www.diva-portal.org/smash/get/diva2:436733/FULLTEXT01.pdf>

This is a paper covering the two methods of determining the kinematics and forces on a robotic arm. The two methods covered are Newton-Lagrange and Newton-Euler. The NL method is similar to the kinematics taught in Dynamics of Machinery, where all unknowns are solved simultaneously. The NE method uses transformation matrices in order to trace a path from the base of the robotic arm out to any joint in the forward kinematics step, then dynamics and forces can be solved for. The same method can also be used to solve for the inverse kinematics.

Introduction to D-H Parameters:

<https://notendur.hi.is/pgg/DenavitHartenberg.pdf>

D-H Paramaters are a standard formulation of the Newton-Euler kinematics model. By constructing matrices in the local space of each joint/link it is easy to reduce the processor load by only changing the paramaters in each matrix related to its joints DOFs.

Enhanced Passive Leg Dynamics:

<ftp://theory.csail.mit.edu/pub/users/jpratt/natural_dynamics.pdf>

This paper covers passive leg dynamics for a bipedal robot, many of which can be used in a robot with more legs. It discusses some of the simulations used to build a gait, as well as discussing some of the passive dynamics of legs that can be used to reduce the complexity of creating a gait. The biggest two are kneecaps to increase leg stability and a compliant ankle which increases the ability of a leg to grip the surface it's walking on. There is also the passive leg swing model, which requires only a hip torque in order to exploit the natural dynamics of legs to make a walking motion.