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Biomechanics

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Description: This concentration establishes a fundamental understanding of the mechanics of biomolecules, cells, and tissues. Experimental techniques and theoretical models are covered at each length-scale, with an emphasis on biomedical applications and technologies.

Guide for class selection: One of the three Restrictive Electives must be 20.310.

Restricted Electives

20.310 **Molecular, Cellular, and Tissue Biomechanics** (U) same as 2.797, 3.053, 6.024
Prereq: 2.370 or 20.110J; 18.03 or 3.016; Biology (GIR)

Plus 2 additional courses from this list:

3.052 **Nanomechanics of Materials and Biomaterials** (U)
Prereq: 3.032 or permission of instructor

3.032 **Mechanical Behavior of Materials** (U)
Prereq: Physics I (GIR); 3.016B or 18.03

2.785 **Cell-Matrix Mechanics** (G, H) same as 3.97, 20.411, HST.523
Prereq: 2.001, Chemistry GIR, Biology GIR; or permission of instructor

2.799 **The Cell as a Machine** (G, H)
Prereq: 5.07, 18.03, or 7.05

3.22 **Mechanical Behavior of Materials** (G)
Prereq: 3.032 or permission of instructor

20.315 **Physical Biology** (U)
Prereq: 20.110J or permission of instructor