

Syllabus

Dates	Topic	Faculty
<i>Faculty introductory lectures</i>		
1/11	Overview of the course	Assoian or Wells (10 min)
	Introduction to cell mechanics	Janmey and Davies
1/18	Materials (fabrication, properties, analysis)	Burdick and Mauck
1/23	Fluidics	Stebe
1/25	ECM/adhesion receptor overview	Assoian and Wells
 <i>Recent or landmark papers to be critically reviewed and discussed</i>		
<u>Cell mechanics</u>		
1/30, 2/1	The ECM and biomechanics-1	Assoian (1/30), Hankenson (2/1)
2/6, 2/8	The ECM and biomechanics-2	Janmey (2/6), Wells (2/8)
2/13, 2/15	Adhesion receptors and biomechanics-1	Assoian (2/13; integrins), Puré (2/15; CD44)
2/20	Adhesion receptors and biomechanics-2	Assoian and Chen-tentative (cadherins)
2/22	Biomechanics and the nucleus	Mauck
2/27, 2/29	FA and AJ signaling and force transduction	Assoian (2/27); Hinz (U Toronto; 2/29)
3/5, 3/7	Force modulation and the actin cytoskeleton	Janmey (3/5), Chen (3/7)
3/12, 3/14	Interface of soluble and mechanical factors	Wells (3/12), Puré (3/14)
 <u>Translational biomechanics and disease</u>		
9, 3/21	Stem cells/regenerative medicine	Hankenson (3/19), Chen (3/21)
3/26, 3/28	Fibrosis and wound healing	Wells (3/26 and 3/28)
4/2, 4/4	Cancer	Assoian (4/2), Puré (4/4)
4/9, 4/11	Cardiovascular disease	Davies (4/9), Assoian (4/11)