

LECTURE SCHEDULE

BME 599 ~ Modeling & Simulation of Human Movement

Month	Tuesday		Thursday	
January	8		10	Introduction and OpenSim (Delp)
	15	Lab 1: Jumping Simulation (Anderson-99)	17	Systems-level Modeling (Buchanan, Erdemir, Zajac-93)
	22	Muscle Moment Arm (Arnold-00, Blemker, Delp-99)	24	Inverse Kinematics (De Groot-08, Lu)
	29	Lab 2: Kinematic Modeling	31	Inverse/Forward Dynamics (Gilchrist, Remy)
February	5	Patient-specific Modeling (Reinbolt-05, Reinbolt-07)	7	Adv. Dynamic Analyses (Fregly-96, Higginson)
	12	Lab 3: Torque Simulation	14	Dynamic Optimization (Fregly-07, Peasgood)
	19	Contact Modeling (Gilchrist, Mahboobin)	21	Muscle Modeling (Buchanan, Pandy, Zajac-89)
	26	Muscle Model Evaluation (Anderson-01a, van den Bogert)	28	Muscle Model: Optimization (De Groot-10, Garner)
March	5	Lab 4: Muscle Tug of War	7	Muscle Model: Cadaver (Arnold-10, Ward)
	12	Model Applications (Arnold-00, Arnold-01)	14	Muscle Control Principles (Franklin, Selen)
	19	Spring Break (no class)	21	Spring Break (no class)
	26	Lab 5: Kicking Simulation Tug of War Competition	28	Muscle Feedback Control (Gerritsen, Kooij)
April	2	Static Optimization (Frayssse, Glitsch)	4	Dynamic Optimization (Anderson-01b, Thelen)
	9	EMG-driven Models (Lloyd, Shao)	11	Factor Analysis (Bunderson, Ting)
	16	Project Presentations	18	Project Presentations
	23	Project Presentations	25	Project Presentations
	30			
May			2	NO Final Exam
	7		9	