

SG2804 Biomechanics of human movement, Autumn 2015-6

Wk	Date	Time	Room	Topics	Reading	Assignment due
45	Mon 2-Nov	10-12	D33	L1: Course contents Anatomy, Motion definitions, biological tissues	Ch 1, 2	
	Tues 3-Nov	10-12	D33	L2: Soft tissues biomechanics, Muscle tissue and activation	Ch 3, 6	
	Wed 4-Nov	15-17	B22	L3: Motion and motion analysis	Ch. 8,9	
	Thurs 5-Nov	13-16	Karol	Field trip: Experiments in motion analysis lab, Karolinska Univ Hosp.		
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46	Mon 9-Nov	10-12	Glader	Lab 1: OpenSim Intro, Tutorial 1		
	Tues 10-Nov	10-12	L44	L4: Inverse dynamics	Ch. 10,11	
	Thurs 12-Nov	13-15	L43	L5: Muscle biomechanics and physiology	Ch. 4	Review Questions Chap 3 & 6 (relevant questions) to ruoli@kth.se
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47	Mon 16-Nov	10-12	B22	L6: <i>Presentations</i> Motion kinetics		OpenSim tutorial 1 to ruoli@kth.se
	Tues 17-Nov	10-12	L44	L7: Kinematics of normal walking	Ch. 9	HW1 (Motion lab kinem) - <i>present</i>
	Thurs 19-Nov	10-12	M122 (B)	Lab 2: OpenSIM IK+ID		
	Fri 20-Nov	15-17	D33	L8: AE (guest): Optimization in biomechanics		Ch 11 Review questions (all T/F and problems 12,18, 20, 21, 24, 25) to ruoli@kth.se
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48	Mon 23-Nov	10-12	L41	Lab 2: OpenSIM IK+ID???		
	Tis 24-Nov	10-12	B23	L9: Muscle modelling		
	Thurs 26-Nov	13-15	V34	L10: Kinetics and muscle activities in walking	Handout	
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49	Mon 30-Nov	10-12	D33	L11: SG (guest) Orthopedic surgery		HW2 (Motion lab kinetics) <i>reports due</i> 8.00 OpenSim tutorial 3 to ruoli@kth.se
	Tues 1-Dec	10-12	Q24	L12: Pathological walking, cont		
	Wed 2-Dec	15-17	Butter	Lab 3: OpenSIM RRA + CMC		
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50	Mon 7-Dec	10-12	E34	L15: TA (guest): Sports applications	Handout	
	Thurs 10-Dec	13-15	L41	L14: <i>presentations</i> Description of final project		HW3 (Stat optim) <i>present</i> OpenSim tutorial 4 to ruoli@kth.se
	Fri 11-Dec					
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51	Mon 14-Dec	10-12	D33	L13: Weakness and compensation, walking aids		
	Thurs 17-Dec	13-15	L41	L16: Current topics, Jogging	Handout	HW4 (OpenSIM RRA+CMC) <i>reports</i> 12.00
	Fri 18-Dec		Mek	Teaching Assistant available for OpenSIM help		
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3	Mon 18-Jan	14-18	D42	Final project presentations		1-page summary due (kl. 9.00)

Course teacher: Lanie Gutierrez-Farewik. Assistant: Ruoli Wang

Guest Lecturers: Professor Anders Eriksson (KTH), Stefan Gantelius (Orthopedic Surgeon, Karolinska Institutet/Hospital), Professor Toni Arndt (GIH)

Reading assignment chapters refer to Hamill and Knutzen, Biomechanical Basis of Human Movement