ME 599R Syllabus
COMPUTATIONAL METHODS IN BIOMECHANICS

[Winter 2009, Tu / Th 8:30-10:20 am, Loew 117, SLN 14938]

Session	*Date*	*Topic*	*Assignments*
#1	01/06/09	*Intro:* Course Overview | *Motion Analysis 1* - Introduction	Hmwk #1: out
#2	01/08/09	*Motion Analysis 2:* Data Acquisition at VA Puget Sound	
#3	01/13/09	*Motion Analysis 3:* Inverse Dynamics and Gait Analysis	Hmwk #1: in, Hmwk #2; out
#4	01/15/09	*Motion Analysis 4:* SIMM - Introduction / Tutorial	Lab #1: out
#5	01/20/09	*Motion Analysis 5:* SIMM - In-Class Examples	Hmwk #2: in
#6	01/22/09	*Motion Analysis 6:* Dynamics Pipeline and Forward Dynamics Simulations	
#7	01/27/09	*Finite Element Analysis 1:* Introduction & Theory of FEA	Lab #1: in, Hmwk #3: out
#8	01/29/09	*Finite Element Analysis 2:* Example(s) of FEA in Research	Lab #2: out
#9	02/03/09	*Finite Element Analysis 3:* FEA Programming	Hmwk #3: in, Hmwk #4: out
#10	02/05/09	*Finite Element Analysis 4:* FEA Modeling Using ANSYS	
#11	02/10/09	*Finite Element Analysis 5:* FEA Bone Model: Preprocessing & Solving	Hmwk #4: in
#12	02/12/09	*Finite Element Analysis 6:* FEA Bone Model: Post Processing	
#13	02/17/09	*Agent-Based Modeling 1:* Intro. to Complexity & ABM Methods; Demos	Lab #2: in, Lab #3: out
#14	02/19/09	*Agent-Based Modeling 2:* Intro. to ABM Coding in Matlab; Discuss Lab	
#15	02/24/09	*Agent-Based Modeling 3:* Parametric Analyses & Est. ABM Parameters 1	
#16	02/26/09	*Agent-Based Modeling 4:* Parametric Analyses & Est. ABM Parameters 2	
#17	03/03/09	*Agent-Based Modeling 5:* Example 1 of ABMs in Research; In-Class Lab help	
#18	03/05/09	*Agent-Based Modeling 6:* Example 2 of ABMs in Research; In-Class Lab Help	
#19	03/10/09	*Summary:* Multi-Scale Biomechanical Modeling	Lab #3: in
#20	03/12/09	*Summary:* Project Presentations	
	03/17/09	**No Final Exam**	

*Reading / Handouts to be distributed as PDFs via course website: http://courses.washington.edu/me599k/