ME 318       Multiscale simulation

Instructors: Professors Wing Kim Liu, Leon M. Keer, and Jane Wang

4/1 Lecture 1 -- Theories of macro-, micro-, and nano- scale of mechanics (Keer)
4/3 Lecture 2 -- Theories of macro-, micro-, and nano- scale of mechanics (Keer)
4/8 Lecture 3 -- Nanoindentation and nanotribology I (Wang)
4/10 IGERT symposium (noon to 5:00 pm, Norris, Indiana Rm) (Keer)
4/15 Lecture 4 -- Nanoindentation and nanotribology II (Wang)
4/17 IGERT Seminar (LR4, 12:00-1:00pm): Prof. Ken Ludema (Wang)
4/22 Lecture 5 -- Nanoindentation and nanotribology III (Wang)
4/22 Lab tour (7:00 pm, NG31) (Wang)
4/24 Lecture 6 -- Simulations in Nanoindentation and nanotribology I (Wang)
4/29 Lecture 7 -- Simulations in Nanoindentation and nanotribology II (Wang)
5/1 Lecture 8 -- Multiscale simulation I (Liu)
5/6 Lecture 9 -- Multiscale simulation II (Liu)
5/8 IGERT Seminar (LR4, 12:00-1:00pm): Dr. Y.T. Cheng and round-table discussion on life in leading industries (B211, 2:00-3:00pm) (Wang)
5/13 Lecture 10 -- Multiscale simulation II (Liu)
5/15 Lecture 11 -- Multiscale simulation III (Liu)
5/20 Lecture 12 -- Multiscale simulation IV (Liu)
5/22 IGERT Seminar (LR4, 12:00-1:00pm): Dr. Miyoshi and round-table discussion on life in national labs (B211, 2:00-3:00pm) (Liu)
5/27 Lecture 13 -- Multiscale simulation V (Liu)
5/29 Lecture 14 -- Multiscale simulation VI (Liu)

Reading week, Buffer, as needed

Week 10 -- presentations of projects

Notes:
1. Buffer classes may be used when more lectures are needed.
2. Course evaluation:
   (1) There will be a few homework assignments. These assignments will account for 30% of course grade. (2) Each student will write one-page summary critiques for three IGERT seminars and any two talks in the IGERT Symposium. These critiques will account for 20% of course grade and will be graded on a binary basis. (3) Each student will do a course project on a topic of his/her choice. During the tenth week of class, each student will submit a project report (30%) and make an oral presentation (20%).