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Class hours: MWF 12:50-1:40 (period 6)

Location: on-line

Office hours: TBD

Grader: TBD

Grading: Exam I: 50%, Exam II: 50%


Website: http://elearning.ufl.edu/

Topics

1. Macroscopic Kinetics
   - reaction rate and rate equations
   - elementary reactions
   - complex reactions
   - pseudo steady-state approximation
   - example mechanisms (e.g. chain reactions)
   - thermal rate coefficient
   - general definition of activation energy

2. Molecular Collisions and Microscopic Kinetics
   - Maxwell-Boltzmann distribution of molecular speed and energy
   - kinetic theory of collisions
   - reaction cross section
   - electronic potential energy
   - molecular vibrations (normal modes of vibration)
   - classical scattering theory
   - reaction dynamics
3. Statistical Theories of Reaction Rates
   - review of statistical mechanics
   - transition state theory
   - unimolecular reactions

Supplemental textbooks
