

Reading list/Class schedule

Chemistry 8565 – Chemical Reaction Dynamics, Winter 2019

	<i>Date</i>		<i>Reading</i>
0	F	Jan 25	(Introduction and syllabus)
1	M	Jan 28	“Potential energy surfaces”
2	F	Feb 1	“Activated Complex Theory of Bimolecular Reactions”
3	M	Feb 4	“The Activated Complex in Chemical Reactions”
4	F	Feb 8	“Inertia and Driving Force of Chemical Reaction”
5	M	Feb 11	to be announced
6	F	Feb 15	to be announced
7	M	Feb 18	to be announced
8	F	Feb 25	to be announced
9	M	Feb 28	to be announced
10	F	Mar 1	to be announced
11	M	Mar 4	to be announced
12	F	Mar 8	to be announced
13	M	Mar 11	to be announced

Reading for Monday, January 28, 2019:

“Potential Energy Surfaces”

D. G. Truhlar, in *The Encyclopedia of Physical Science and Technology*, 3rd edition, edited by R. A. Meyers (Academic Press, New York, 2001), Vol. 13, pages 9-17.

truhlar.chem.umn.edu/content/book-chapters-pdf-files

Reading for Friday, February 1, 2019:

“Activated Complex Theory of Bimolecular Reactions”

B. H. Mahan, *Journal of Chemical Education* **51**, 709-711 (1974).

doi.org/10.1021/ed051p709

activated complex theory \equiv transition state theory

QUOTATION OF THE DAY:

“The overall picture is that the validity of the transition state theory has not yet been really proved and its success seems to be mysterious.”

Raymond Daudel, Georges Leroy, Daniel Peeters,
and Michel Sana, *Quantum Chemistry* (1983)

Reading for Monday, February 4, 2019:

“The Activated Complex in Chemical Reactions”

H. Eyring, *Journal of Chemical Physics* **3**, 107-115 (1935).

doi.org/10.1063/1.1749604

Reading for Friday, February 8, 2019:

“Inertia and Driving Force of Chemical Reaction”

M. G. Evans and M. Polanyi, *Transactions of the Faraday Society* **34**, 11-24 (1938).

doi.org/10.1039/TF9383400011