课程名（Coursename）
Statistical Thermodynamics

课程代码（Coursenumber）
 5.70J

课程对象（Audience）
Graduate

选课前提（prerequisite）
5.60 or permission of instructor

单元（units）
4-0-8

添加至时间表 （add to schedule）

开课教师（Teacher）
J. Cao

学期（Semester）
fall term

课程描述（Description）
Develops classical equilibrium statistical mechanical concepts for application to chemical physics problems. Basic concepts of ensemble theory formulated on the basis of thermodynamic fluctuations. Examples of applications include Ising models, lattice models of binding, ionic and non-ionic solutions, liquid theory, polymer and protein conformations, phase transition, and pattern formation. Introduces computational techniques with examples of liquid and polymer simulations.

备注（notes）
H-level Grad Credit
Same subject as 10.546J

教参信息（Textbookinfo）
1 Statistical Thermodynamics by Erwin Schrodinger (Paperback - Sept. 1, 1989)
Publisher: Dover Publications (September 1, 1989)
ISBN-13: 978-0486661018
2 An Introduction to Statistical Thermodynamics by Terrell L. Hill (Paperback - Jan. 1, 1987)
Publisher: Dover Publications (January 1, 1987)
ISBN-13: 978-0486652429
3 Elements of Statistical Thermodynamics: Second Edition by Leonard Kollender Nash (Paperback - Jan. 19, 2006)
Publisher: Dover Publications; 2 edition (January 19, 2006)
ISBN-13: 978-0486449784
世界各地拥有馆藏的图书馆（OCLC）:27
4 Statistical Thermodynamics: Fundamentals and Applications by Normand M. Laurendeau (Hardcover - Nov. 21, 2005)
Publisher: Cambridge University Press; illustrated edition edition (November 21, 2005)
ISBN-13: 978-0521846356
世界各地拥有馆藏的图书馆（OCLC）:164
5 Thermodynamics, Statistical Thermodynamics, & Kinetics (2nd Edition) by Thomas Engel and Philip Reid (Hardcover - Mar. 22, 2009)
Publisher: Prentice Hall; 2 edition (March 22, 2009)
ISBN-13: 978-0321615039
世界各地拥有馆藏的图书馆（OCLC）:64
6 Molecular Driving Forces: Statistical Thermodynamics in Chemistry & Biology by Ken A. Dill and Sarina Bromberg (Paperback - Sept. 13, 2002)
Publisher: Garland Science; 1 edition (September 13, 2002)
ISBN-13: 978-0815320517
世界各地拥有馆藏的图书馆（OCLC）:384
7 Statistical Mechanics by Donald A. McQuarrie (Hardcover - May 2000)
Publisher: University Science Books; 2 edition (May 2000)
ISBN-13: 978-1891389153
8 An Introduction to Thermodynamics and Statistical Mechanics by Keith S. Stowe (Hardcover - June 11, 2007)
Publisher: Cambridge University Press; 2 edition (June 11, 2007)
ISBN-13: 978-0521865579
世界各地拥有馆藏的图书馆（OCLC）:166
9 Introduction to Modern Statistical Mechanics by David Chandler (Paperback - Sept. 17, 1987)
Publisher: Oxford University Press, USA; 1 edition (September 17, 1987)
ISBN-13: 978-0195042771
10 Equilibrium and Non-Equilibrium Statistical Thermodynamics by Michel Le Bellac, Fabrice Mortessagne, and G. George Batrouni (Hardcover - May 3, 2004)
 Publisher: Cambridge University Press (May 3, 2004)
ISBN-13: 978-0521821438
世界各地拥有馆藏的图书馆（OCLC）:218