课程名（Coursename）
Investigating Organic Mechanisms

课程代码（Coursenumber）
B8

课程对象（Audience）
Undergraduate

开课教师（Teacher）
Dr P. D. Wothers

学期（Semester）
M 6–8 & L 1–3

课程描述（Description））
How do we know how a reaction proceeds? How much faith should we put in the mechanisms we so readily draw? In this course we will investigate the different methods available to the chemist in order to understand exactly how species react in solution. We will look at the ways of determining and manipulating the reaction pathways from starting materials, through transition states and intermediates to products. The crucial role of the solvent in controlling the outcome of a reaction is also examined.
Topics Kinetics, potential energy surfaces for reactions, interpretation of enthalpy, entropy and volume of activation, interpretation of kinetic isotope effects, acid and base catalysis, linear free energy relationships (Brønsted and Hammett equations). Noncovalent interactions, solvation, water as a solvent and hydrophobic effects and solvent effects on organic reactivity.

课时信息（Totalhours）

教参信息（Textbookinfo）
1 Advanced Organic Chemistry: Part A: Structure and Mechanisms (Advanced Organic Chemistry / Part A: Structure and Mechanisms) by Francis A. Carey and Richard J. Sundberg (Paperback - June 13, 2007)
ISBN-13: 978-0387683461
世界各地拥有馆藏的图书馆（OCLC）:228
2 Advanced Organic Chemistry: Part B: Reaction and Synthesis (Advanced Organic Chemistry / Part B: Reactions and Synthesis) by Francis A. Carey and Richard J. Sundberg (Paperback - Sept. 6, 2007)
ISBN-13: 978-0387683546
世界各地拥有馆藏的图书馆（OCLC）:228
3 March's Advanced Organic Chemistry: Reactions, Mechanisms, and Structure by Michael B. Smith and Jerry March (Hardcover - Jan. 16, 2007)
ISBN-13: 978-0471720911
世界各地拥有馆藏的图书馆（OCLC）:474
4 Advanced Organic Chemistry: Reaction Mechanisms (Advanced Organic Chemistry Series) by Reinhard Bruckner (Hardcover - July 26, 2001)
ISBN-13: 978-0121381103
世界各地拥有馆藏的图书馆（OCLC）:335
5 Modern Physical Organic Chemistry by Eric V. Anslyn and Dennis A. Dougherty (Hardcover - July 15, 2005)
ISBN-13: 978-1891389313
世界各地拥有馆藏的图书馆（OCLC）:442
6 Advanced Organic Chemistry (2nd Edition) by Bernard Miller (Paperback - July 21, 2003)
ISBN-13: 978-0130655882
世界各地拥有馆藏的图书馆（OCLC）:202
7 Organic Chemistry by Jonathan Clayden, Nick Greeves, Stuart Warren, and Peter Wothers (Paperback - Aug. 31, 2000)
ISBN-13: 978-0198503460
8 Organic Structure Determination Using 2-D NMR Spectroscopy: A Problem-Based Approach (Advanced Organic Chemistry) by Jeffrey H. Simpson (Paperback - July 24, 2008)
ISBN-13: 978-0120885220
世界各地拥有馆藏的图书馆（OCLC）:329
9 Strategic Applications of Named Reactions in Organic Synthesis by Laszlo Kurti and Barbara Czako (Paperback - Mar. 18, 2005)
ISBN-13: 978-0124297852
世界各地拥有馆藏的图书馆（OCLC）:489
10 Transition Metals, Quantitative Kinetics & Applied Organic Chemistry (Nelson Advanced Science) by Brian Chapman (Paperback - June 30, 2004)
ISBN-13: 978-0748776580
世界各地拥有馆藏的图书馆（OCLC）:13