课程代码（Coursenumber）  
CHM 533  
  
课程对象（Audience）  
Primarily for Graduates  
  
开课教师（Teacher）  
  
学期（Semester）  
  
课程描述（Description））  
The properties and synthesis of heterocyclic compounds containing nitrogen, oxygen, and sulfur relationships between structure and chemical and physical properties and the general principles of reactivity and synthesis are studied. Topics include electrophilic, nucleophilic, and homolytic substitution reactions; the chemistry of N-oxides and N-ylides; photochemistry; molecular rearrangements and ring transformations; and modern synthetic methodology and design.  
  
课时信息（Totalhours）  
  
教参信息（Textbookinfo）  
1 Heterocyclic Chemistry by John A. Joule and Keith Mills (Hardcover - June 15, 2010)   
ISBN-13: 978-1405193658  
世界各地拥有馆藏的图书馆（OCLC）:57  
2 Heterocyclic Chemistry (3rd Edition) by T. L. Gilchrist (Paperback - Apr. 14, 1997)  
ISBN-13: 978-0582278431  
3 Heterocyclic Chemistry at a Glance by John A. Joule and Keith Mills (Paperback - Apr. 25, 2007)  
ISBN-13: 978-1405139182  
世界各地拥有馆藏的图书馆（OCLC）:102  
4 The Chemistry of Heterocycles: Structure, Reactions, Syntheses, and Applications by Theophil Eicher and Siegfried Hauptmann (Paperback - Sept. 19, 2003)  
ISBN-13: 978-3527307203  
世界各地拥有馆藏的图书馆（OCLC）:277  
5 Name Reactions in Heterocyclic Chemistry (Comprehensive Name Reactions) by Jie Jack Li (Hardcover - Oct. 11, 2004)  
ISBN-13: 978-0471302155  
世界各地拥有馆藏的图书馆（OCLC）:276  
6 Fundamentals of Heterocyclic Chemistry: Importance in Nature and in the Synthesis of Pharmaceuticals by Louis D. Quin and John Tyrell (Hardcover - July 6, 2010)  
ISBN-13: 978-0470566695  
世界各地拥有馆藏的图书馆（OCLC）:10  
7 Heterocyclic Chemistry (Basic Concepts In Chemistry) by Malcolm Sainsbury (Paperback - Aug. 30, 2002)  
ISBN-13: 978-0471281641  
世界各地拥有馆藏的图书馆（OCLC）:145  
8 Bioactive Heterocycles IV (Topics in Heterocyclic Chemistry) by Mahmud T.H. Khan (Hardcover - Dec. 6, 2007)  
ISBN-13: 978-3540734031  
世界各地拥有馆藏的图书馆（OCLC）:16  
9 Handbook of Heterocyclic Chemistry, Third Edition by Alan R. Katritzky, Christopher A. Ramsden, John A. Joule, and Viktor V. Zhdankin (Paperback - Sept. 29, 2010)  
ISBN-13: 978-0080958439  
世界各地拥有馆藏的图书馆（OCLC）:4  
10 Progress in Heterocyclic Chemistry Volume 22, Volume 22 by Gordon W. Gribble and John A. Joule (Hardcover - Nov. 25, 2010)  
ISBN-13: 978-0080966854  
世界各地拥有馆藏的图书馆（OCLC）:4  
11 Advances in Heterocyclic Chemistry, Volume 101 by Alan R. Katritzky (Hardcover - July 15, 2010)  
ISBN-13: 978-0123813060  
世界各地拥有馆藏的图书馆（OCLC）:7  
12 Advances in Heterocyclic Chemistry, Volume 100 by Alan R. Katritzky (Hardcover - May 6, 2010)  
ISBN-13: 978-0123809360  
世界各地拥有馆藏的图书馆（OCLC）:4