附件2

**武汉大学全英文授课课程信息表**

**Wuhan University Course Outline**

**School/Department:**

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| **Course Name (Chinese)\*** | 高等有机化学 |
| **Course Name (English)\*** | Advanced Organic Chemistry |
| **Course Code\*** | 201401815 |
| **Availability\*** | 🗹 Semester 1 □Semester 2 |
| **Course Hours\*** | 35 |
| **Credits\*** | 2 |
| **Course Description\*** | 'Advanced Organic Chemistry' focuses on important organic reactions and mechanisms not usually covered in depth in Introductory Organic Chemistry courses. This course will concentrate on understanding how physical organic techniques are used to establish the mechanism of a reaction and to rationalize outcomes of organic reactions, with an emphasis placed upon the applications of chemical structural theory. Educational goals of this course including the developments of a basic knowledge of synthetic organic chemistry reactions, an understanding of structure-reactivity principles in a variety of chemical structures, the ability to design synthetic strategies to construct complex molecule for students interested in organic chemistry or related fields. |
| **Course Objectives/Content\*** | The goal of the Advanced Organic Chemistry is to give equal weight to the three fundamental aspects of the study of organic chemistry: reaction, mechanism, and structure, including:   1. Stereochemistry: including conformation and stereoelectronic effects (2-3 hours); 2. Mechanistic and physical organic chemistry: reaction dynamics, isotope effects, molecular orbital theory, the Hammond Postulate, linear free energy relationships, and others (5-10 hours); 3. Special reactive intermediates: carbenes, carbanions, free radicals and the basic principles that govern chemical reactivity (10-12 hours); 4. The main types of reactions: the enolate chemistry, the Aldol reaction, metalation reactions, conjugate additions, reductions reactions, oxidation reactions, metalation reactions, key ring forming reactions (15-16 hours); 5. Presentation and Discussions (4-6 hours). |
| **Teaching Methods** | 多媒体、学生Presentation and Discussions |
| **Assessment\*** | 作业 10%  中期考试 20%  期末考试 50%  Presentation and Discussions 20% |
| **Textbook(s)** | 自编讲义 |
| **Reading** | 1. March's Advanced Organic Chemistry: Reactions, Mechanisms, and Structure, 6th Edition, Michael B. Smith / Jerry March 2. Advanced Organic Chemistry – Part B 5th Ed. 2007, Carey and Sundberg 3. Advanced Organic Chemistry / Bernard Miller 4. Strategic Applications of Named Reactions in Organic Synthesis/[Laszlo Kurti](http://www.amazon.com/s/ref=ntt_athr_dp_sr_1?_encoding=UTF8&sort=relevancerank&search-alias=books&field-author=Laszlo%20Kurti) , [Barbara Czako](http://www.amazon.com/s/ref=ntt_athr_dp_sr_2?_encoding=UTF8&sort=relevancerank&search-alias=books&field-author=Barbara%20Czako) 5. Advanced Organic Chemistry-Reaction Mechanisms/ Reinhard Bruckner |
| **Prerequisites** | 多媒体、黑板 |
| **Lecturer(s)** | 周海兵 教授 |

注：\*为必填。