

## 0402501 Advanced Organic Chemistry

### Course Syllabus

Modern concepts and theories of selectivity and reactivity in organic reactions will be introduced. Topics in the area of reactive intermediates, transition-state theories, and functional group interconversions will be discussed. Kinetics and thermodynamics of reactions, molecular mechanisms and stereochemistry of reactions, conformational analysis, and pericyclic reactions will be covered.

**Time: Tuesday and Thursday**

**Course Director: Poonsakdi Ploypradith, Ph.D.**

**Grading: Two 3-hour exams (45% and 40%), homework (10%), and class participation (5%)**

#### Module 1: 9:00 a.m.-12:00 p.m.

September 1:	Strain and Stability	WN
September 3:	Catalysis	WN
September 8:	Reactions of Carbonyl Compounds/Carbanion Chemistry	PP
September 10:	Reactive Electrophilic Species	PP
September 15:	Free-Radical Reactions/Photochemistry	PP
September 17:	Mechanistic Organic Chemistry I	RS
September 22:	Mechanistic Organic Chemistry II	RS
September 24:	Review and Discussions (3 h; exact time TBA)	Staff
September 29:	-----Midterm (9:00 am-12:00 p.m.)-----	

#### Module 2: 9:00 a.m.-12:00 p.m.

October 1:	Classes of Reactions I	CT
October 6:	Classes of Reactions II (1.00 p.m. - 4.00 p.m.)	CT
October 8:	Classes of Reactions III	CT
October 15:	Concerted Reactions	JT
October 20:	Concerted Reactions	JT
October 22:	Concerted Reactions	JT
October 27:	Review and Discussions (3 h; exact time TBA)	Staff
October 29:	-----Final (9:00 am-12:00 p.m.)-----	

### List of Participating Faculties:

Associate Professor Dr. Charnsak Thongsornkleeb (CT)

Associate Professor Dr. Jumreang Tummatarn (JT)

Dr. Rungroj Saruengkhanphasit (RS)

Dr. Worawat Niwetmarin (WN)

Dr. Poonsakdi Ploypradith (PP)

- References:**
- 1) Advanced Organic Chemistry 5<sup>th</sup> Edition (Part A and B) by F. A. Carey & R. J. Sundberg
  - 2) Advanced Organic Chemistry 6<sup>th</sup> Edition by M. B. Smith & J. March

This is only a tentative schedule and thus can be subjected to changes which will be notified to faculties and students at the earliest possible.

No class on October 13 (a national holiday).