# Syllabus – Organic Reaction Mechanisms

## Course Instructor

Instructor: Dr. James Devery
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## Weekly Schedule

Lecture: Tu/Th 4:15-5:30 PM in FH 007
Office Hours: TBD

## Email

You must use your Loyola email address for all communication during this course, especially official communication regarding grades. Emails from outside sources can be blocked by spam filters.

## Course Materials

Website: sakai.luc.edu

## Grading

| | | |
|---|---|---|
| Class Participation (300 points) | 300 | 30% |
| 2 Exams (200 points) | 400 | 40% |
| 1 Paper (100 points) | 100 | 10% |
| 1 Presentation (100 points) | 100 | 10% |
| Presentation Summaries (100 points) | 100 | 10% |
| Total | 1000 | 100% |

Class Participation

Problems will be done and reviewed in class. You will be expected to be an active participant in discussions. You will be expected to go to the board and answer questions. You will be evaluated on your willingness to make mistakes and learn from them.

Midterm Exam

There are **two** midterm exams during the semester. They will cover lecture/discussion topics and will be held during the Lecture period.

Presentation, Paper, and Presentation Summaries

A separate guide describing the requirements of the presentation and paper will be provided.

**Final Grades**

Final grades will be given after combining both parts of this course. A guideline for grades is shown below. At minimum, you will receive the grade indicated. However, if the class average is below ~70%, there will be a curved grading system.

A = 94–100%
A– = 89–93%
B+ = 86–88%
B = 81–85%
B– = 78–80%
C+ = 75-77%
C = 66-74%
C– = 63–65%
D = 51-62%
F = 0-50%

**THERE ARE NO MAKE-UPS FOR ANY COURSE REQUIREMENTS. PLAN ACCORDINGLY**

## Class time

### Lecture

Important! Feel free to bring any reference books or modeling kits to class AND USE THEM. Class periods will be the *most critical source* of information for this course. Remember, any questions not addressed during lecture can be addressed via office hours, email, or Twitter. If you miss a period, please get the notes from another student in class.

## Class Etiquette

"…treat people the same way you want them to treat you…"
Come to class on time.
No talking during lecture.
Mute electronic devices.
No eating.
No sleeping.

Students with multiple violations of classroom etiquette will be subject to point deductions throughout the semester.

## Course Topics

- Physical Organic Chemistry
  - Chemical Equilibrium
  - Chemical Kinetics
  - Synthetic Analysis
- Organic Mechanisms
  - Cations
  - Anions
  - Radicals
  - Redox

## Presentation Topics

- Marcus Theory
- Hammonds Postulate
- Curtin-Hammett Principle
- Microscopic Reversibility
- Isotope Effects
- Linear Free Energy Relationships
- Reaction Progress Kinetic Analysis
- Dynamic Kinetic Resolution
- Enamine Catalysis
- Iminium Catalysis
- Ammonium Phase Transfer Catalysis
- Thiourea Catalysis
- Phosphonic Acid Catalysis
- Carbene Catalysis

## Academic Integrity

All students in this course are expected to have read and to abide by the demanding standard of personal honesty, drafted by the College of Arts & Sciences, that can be viewed at: http://www.luc.edu/cas/pdfs/CAS_Academic_Integrity_Statement_December_07.pdf

Anything you submit that is incorporated as part of your grade in this course (quiz, exam, etc.) must represent your own work. Any students caught cheating will, **at the very minimum**, receive a grade of "zero" for the item that was submitted and this grade cannot be dropped. If the cheating occurred during a course exam, the incident will be reported to the Chemistry Department Chair and the Office of the CAS Dean. Depending on the seriousness of the incident, additional sanctions may be imposed.

## Dropping and Withdrawal

Be aware of the following dates in the semester:
January 23: Last day to withdraw without a mark of a "W."
March 27: Last day to withdraw with a "W" grade, thereafter a "WF" will be assigned

## Disabilities

Students with a university-documented disability should contact me immediately. If your disability requires that quizzes and exams be taken outside of the scheduled time or place, please consult: www.luc.edu/sswd/. Services for Students with Disabilities (SSWD) serves students with disabilities by creating and fostering an accessible learning environment.

## Course/Instructor Evaluation – IDEA

Loyola has recently switched to the IDEA program for instructor and course evaluations. At the end of the semester, you will complete an online evaluation of this course based on criteria set by IDEA and by the instructor. For this course, the main objectives are as follows:

1) Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)
2) Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
3) Learning appropriate methods for collecting, analyzing, and interpreting numerical information
4) Developing skill in expressing oneself orally or in writing
5) Learning how to find, evaluate, and use resources to explore a topic in depth

Keep these objectives in mind throughout the course.

## Changes to Syllabus

There may be changes to the syllabus during the semester. ***You are responsible for all syllabus changes made in class whether or not you attend.***

| Week | Date | Day | Description |
|---|---|---|---|
| 1 | 17-Jan | Tues. | How to presentation |
| | 19-Jan | Thurs. | Phys Org |
| 2 | 24-Jan | Tues. | Phys Org |
| | 26-Jan | Thurs. | Phys Org |
| 3 | 31-Jan | Tues. | HW Session |
| | 2-Feb | Thurs. | Group Session |
| 4 | 7-Feb | Tues. | HW Session |
| | 9-Feb | Thurs. | Group Session |
| 5 | 14-Feb | Tues. | HW Session |
| | 16-Feb | Thurs. | Group Session |
| **6** | **21-Feb** | **Tues.** | **Exam I** |
| | 23-Feb | Thurs. | Group Session |
| 7 | 28-Feb | Tues. | HW Session |
| | 2-Mar | Thurs. | Group Session |
| **8** | **Spring Break** | | |
| 9 | 14-Mar | Tues. | HW Session |
| | 16-Mar | Thurs. | Group Session |
| 10 | 21-Mar | Tues. | HW Session |
| | 23-Mar | Thurs. | Group Session |
| **11** | **28-Mar** | **Tues.** | **Exam II** |
| | **30-Mar** | **Thurs.** | **Presentations** |
| **12** | **4-Apr** | **Tues.** | **Guest Lecture** |
| | **6-Apr** | **Thurs.** | **Presentations** |
| **13** | **11-Apr** | **Tues.** | |
| | **13-Apr** | **Thurs.** | **NO CLASS** |
| **14** | **18-Apr** | **Tues.** | **Presentations** |
| | **20-Apr** | **Thurs.** | |
| **15** | **25-Apr** | **Tues.** | |
| | **27-Apr** | **Thurs.** | |