

# Chemistry 3340L Course Syllabus

<b>Instructor:</b>	Dr. Terry Fernando
<b>Office:</b>	0757 Gilman
<b>Office Hours:</b>	M, W 2:15-3:15 pm or by appointment
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Chem 332 and 334L are co-requisite courses, i.e., students in Chem 334L are required to take Chem 332 at the same time or to have already received credit in 332. Co-requisite course requirements are strictly enforced: Students who do not meet the co-requisite should drop the course or **they will receive an F in the course**. Students who drop or audit Chem 332 will be required to drop 334L.

## Learning Objectives

The main goal of the 333L-334L sequence is to prepare you for research in a synthetic organic research lab. As such, you will learn and perform a wide variety of useful techniques and syntheses. You will be expected to interpret and describe your results in a professional manner.

## Required Personal Protective Equipment (PPE)

- Safety Eyewear: UVEX — Model S040C Safety Glasses or Jones & Co. Visorgogs or Magid Glove and Safety Manufacturing “Sapphire” safety glasses. Other types of protective eyewear require approval from course instructor.
- Lab coat: A mid-thigh or longer lab coat must be purchased. These are available at the bookstore, chemstores in 1400 Gilman Hall (credit card), and various online stores such as Amazon.
- Closed-toe shoes

## Course Materials

You will be using a digital Signals Lab Notebook provided by the chemistry department.

**Signals Lab Reports will need to be exported as PDFs and submitted on Canvas.**

All required lab readings and supplemental information are posted on Canvas.

## Assessments

### Safety

- Signed Safety Contract (5 pts)
  - Read the safety contract available via a link on the 3340L day 1 module. Download and sign using the draw tool in Microsoft Word or sign and scan. Submit using the provided link on the Intro Experiment page.

### Lab Reports (40 pts ea)

- For each experiment, you will create an experiment in your Signals Lab Notebook using templates as instructed. Each experiment will have Pre-lab, In-lab, Data and Analysis, and sometimes Evaluation sections. Your TA will give details on your first day of class.

### Projects

- Multistep Synthesis Project
  - Proposal (40 pts)
  - Report (40 pts)

Detailed information for the projects can be found on Canvas in the corresponding module.

## Grading

Grading scale for final grades: A  $\geq$  93%, A-  $\geq$  90%, B+  $\geq$  87%, B  $\geq$  83%, B-  $\geq$  80%, C+  $\geq$  77%, C  $\geq$  73%, C-  $\geq$  70%, D+  $\geq$  67%, D  $\geq$  63%, and D-  $\geq$  60%, and F < 60%. Grades are round up at the end of the semester. (e.g. 92.5% = A)

**Please see Course Canvas Home Page for Important Course Policies**

Required and Suggested ISU Syllabus Statements: Click [Here](#)

Experiment Schedule

Day	Exp #	Date	Day of Week	Experiment
1	1	1/22/25	W	334L Intro and Safety Contract
2	2	1/27/25	M	EAS: Bromination of Vanillin
3	3	1/29/25	W	EAS Nitration Synthesis
4		2/3/25	M	EAS Nitration Interpretation NMR Spectra (Review of Coupling Constants)
5	4	2/5/25	W	Friedel Crafts Alkylation (same as 3320L)
6	5	2/10/25	M	Microwave Assisted Extraction of Eugenol
7	6	2/12/25	W	Microwave Assisted Friedel Crafts Acylation Day 1
8		2/17/25	M	Microwave Assisted Friedel Crafts Acylation Day 2
9	7	2/19/25	W	Fluorene to 9-Fluorenol Oxidation
10		2/24/25	M	Fluorene to 9-Fluorenol Column
11		2/26/25	W	Fluorene to 9-Fluorenol Reduction
11	8	3/3/25	M	Grignard Reaction
13	9	3/5/25	W	Suzuki-Miyaura Coupling
				PROJECT INFO
14	10	3/10/25	M	Wittig Reaction
15	11	3/12/25	W	Aldol Condensation
16		3/17/25	M	Spring Break
17		3/19/25	W	Spring Break
18	12	3/24/25	M	Reductive Amination Day 1
19		3/26/25	W	Reductive Amination Day 2
20	13	3/31/25	M	Asymmetric Aldol Reaction Day 1
				PROJECT DUE DATE
21	14	4/2/25	W	Diels-Alder Reaction
22		4/7/25	M	Asymmetric Aldol Reaction Day 2
23	15	4/9/25	W	Bibenzyl and NBS
24	16	4/14/25	M	Project (Friedel Crafts paper)
25		4/16/25	W	Project

26		4/21/25	M	Project
27		4/23/25	W	Project
28		4/28/25	M	Project
29		4/30/25	W	Project
30		5/5/25	M	Check out (Prep Week)