

**The class is taught in English only!**

## Overview of the USNCO Mentorship Program offered in 2024-25 - Level 2/3/4

Modules			Module 1	Module 2	Module 3
Timeline			late Aug-mid Oct	late Oct-mid Dec	early Jan-late Feb
Topics	<b>Level 2 [AP Plus and Local]:</b> 8:30-10:00 PM ET on <b>Saturday</b>	for students with a <b>5 in the AP Exam</b> or <b>motivated</b> students <b>taking AP Chemistry concurrently</b>	Stoichiometry, Atomic Structures, Periodicity, Molecular Structures, Bonding, IMFs, Gases	Thermochemistry, Kinetics, Chemical Equilibrium, Acids&Bases, Buffer&Titrations	Descriptive, Laboratory, Fundamental Organic Chemistry, Electrochemistry, Thermodynamics
	<b>Level 3 [Post-AP and National]:</b> 8:30-10:00 PM ET on <b>Sunday</b>	for students who scored <b>40 or higher in USNCO Local 2024</b>	Advanced Stoichiometry, Advanced Periodicity, Advanced Bonding, Solid Structures, Solutions, Reactions	<b>Integrated</b> Chemical Principles [Kinetics, Thermodynamics, Equilibrium, Electrochemistry]	<b>Advanced</b> Organic Chemistry based on structures and reactivities
	<b>Level 4 [Study Camp and IChO]:</b> 8:30-10:00 PM ET on <b>Friday</b>	for students who won <b>Honors Awards or higher in USNCO National 2024</b>	Advanced Reactions, Coordination Chemistry, Analytical Chemistry	<b>ICHO-level</b> Chemical Principles with an emphasis of problem solving	<b>ICHO-level</b> Integrated Organic Chemistry with an emphasis of problem solving

### Level 4 Module 3 Overview

#### - Targeted students

It is recommended for students who have **already won awards in the USNCO National 2024 (Honors Award or above)** to aim for the **Study Camp and US team** for IChO 2025.

The Level 4 class [**Study Camp and IChO**] covers advanced topics in the level of **ICHO and Team Selection in the Study Camp**. The course emphasizes integrated **problem-solving** in Coordination Chemistry, Analytical Chemistry, Chemical Principles, Organic Chemistry, etc.

Students are expected to:

- Read textbooks prior to the class.
- Be engaged in class discussions and take notes.
- Complete the weekly problem set on time for practice and self-evaluation.

### - Time & Scope

Module 3 is planned to start from early Jan 2025 with **8 live sessions** (1.5 hours per session, one session per week). This course will be offered **contingent** on sufficient interest, and the class meets on a weekly basis (tentative: **8:30-10 PM ET on Fridays**).

It will cover **advanced topics** and **integrated problem solving** in organic chemistry.

### - Payment

**\$699** for all 8 live sessions, lecture notes, and problem sets.

Sign it up and pay the tuition by **Jan 12, 2025**.

Signup link for **L4M3** - <https://forms.gle/fBeYA9HqR1iFSSYW6>

#### Payment Info

Payment options include Zelle QuickPay and Alternative payment.

#### Zelle QuickPay

Please send **\$699** to [CHENQ2020@gmail.com](mailto:CHENQ2020@gmail.com) if you would like to pay through Zelle QuickPay. In the payment memo, please also state the full name of the student and write L4M3 next to it.

E.g. Alex Han L4M3

#### Alternative payment

If you don't have Zelle Quickpay, you may contact [chen@dcho.us](mailto:chen@dcho.us) for an alternative payment method, which has an additional 3% service fee.

**Once we receive your payment, we will contact you as soon as possible and provide you all the relevant class information.**

### - Syllabus & Schedule

Sessions	Contents	Homework	Date of Class
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Session 1	Review of Fundamental Organic Chemistry 1	PS1	Jan 10 (Fri)
Session 2	Review of Fundamental Organic Chemistry 2	PS2	Jan 17 (Fri)
Session 3	Chemistry of Benzene and Its Derivatives	PS3	Jan 24 (Fri)
Session 4	Chemistry of Aldehydes and Ketones	PS4	Jan 31 (Fri)
Session 5	Chemistry and Alpha-Carbonyls	PS5	Feb 7 (Fri)
Session 6	Integrated Problem Solving in Organic Chemistry 1	PS6	Feb 14 (Fri)
Session 7	Integrated Problem Solving in Organic Chemistry 2	PS7	Feb 21 (Fri)
Session 8	Integrated Problem Solving in Organic Chemistry 3		Feb 28 (Fri)

## Resources

### - Textbooks

[Module 1&2] Chemical Principles, 6e or 7e or 8e; by Peter Atkins, Loretta Jones, Leroy Laverman.

[Module 3] Organic Chemistry, 2e or 3e or 4e; by David Klein or Organic Chemistry, 2e; by Jonathan Clayden, Nick Greeves, Stuart Warren.

### - Online Platform

**Instructor:** Zoom (link will be shared with students in Google Classroom) + iPad (GoodNotes for annotations) + Apple Pencil

**Students:** A PC or laptop with a webcam and microphone is needed. Devices with a touchscreen are recommended but not required.

### - Resource Platform

Google Classroom, all of the class materials including resources, assignments, lecture notes, problem sets and solutions, etc. are organized and shared in google classroom.

### - Contact Information

Dr. Chen ([chen@dcho.us](mailto:chen@dcho.us))

Dr. Chen's website: <https://dcho.us>