

The Ohio State University

Department of Chemistry & Biochemistry

Autumn 2023

Chemistry PhD Program Incoming Graduate Student Registration Guide

revised 4/21/2023

General Guidelines

The current version of the Chemistry PhD Program's Summary of Procedures and Requirements for Graduate Degrees can be viewed here: <https://go.osu.edu/au22chemgradhandbook>

Overview

During the Autumn semester of their first year in the program, most students will take 3-6 credit hours (this term is abbreviated as "CH" throughout this guide) of core classes in their division, 3-6 credit hours of electives, 1 credit hour of a faculty research presentations course that is a required component of the advisor selection process, 1 credit hour of a safety course, and 1 credit hour of a divisional seminar course. First-year students must register for as near to 18 credit hours as possible during the Autumn and Spring semester of the first two years of the program. The credit hour requirement for Summer term is reduced to 4 credit hours for pre-candidacy students appointed as GTAs or GRAs and to 6 credit hours for pre-candidacy fellowship students.

Most, but not all, lecture classes in the Department of Chemistry & Biochemistry are offered as 7-week, 1.5 CH courses, and there are two 7-week sessions during both Autumn and Spring semesters. A typical Autumn semester schedule for a first-year Chemistry PhD program student will look like this:

AU23 7-wk 1 (8/22/23-10/11/23)	AU23 7-wk 2 (10/16/23-12/14/23)
CHEM 6xxx; in-division (core) [1.5 CH]	CHEM 6xxx; in-division (core) [1.5 CH]
CHEM 6xxx; in-division (core) [1.5 CH]	CHEM 6xxx; in-division (core) [1.5 CH]
Elective(s) (two 1.5 CH or one 3 CH)	
CHEM 6780; Faculty Research Presentations [1 CH]	CHEM 6781; Laboratory Safety [1 CH]
CHEM 889x; Divisional Seminar [1 CH]	
CHEM 8998; Non-thesis Research [register for the number of credits needed to bring your total credit hours to 18 (or as near to 18 as possible)]	

Course Load

In general, 9 credit hours of lecture courses are recommended for the first Autumn, and a minimum of 6 credit hours of lecture courses is required. Students who are supported on a fellowship may consider taking an additional lecture class, but this is not required and the time may be better spent exploring research groups that the student is considering joining.

Based on their results of the Oral Proficiency Assessment and an English composition assessment that will be administered after arriving at OSU, an international student may be required to take classes to establish spoken or written proficiency in English. International students are required to take all recommended English as a Second Language (ESL) courses to achieve spoken English proficiency. These courses may conflict with Chemistry or Biochemistry courses and, while ESL courses often do not involve a lot of homework, they do require a good deal of time spent in class. Consequently, students taking ESL classes should focus on core 6000-level classes in their division and take elective classes in the Spring semester or in their second year. If time conflicts make it impossible to take all of the divisional 6000-level classes, electives can be substituted in their place. Required English composition courses can be deferred to Spring or Summer terms in order to prioritize required Chemistry and spoken English courses.

Core class and elective recommendations for Autumn Semester

Typically, a student will take all of the 6000-level classes offered by their division. Most students will take 3 credit hours of electives of 6000-level classes from another division, but alternatives can be discussed with your temporary advisor. Students will typically take two 7-week electives in the same division.

Program Requirements

All students in the Ph.D. program should sign up for the following courses in Autumn 2023:

- CHEM 6780 Faculty Research Presentations – 7-wk 1; 1 CH. (Register under class number 18969.)
- CHEM 6781 Laboratory Safety, 7-wk 2; 1 CH (Register under class number 18752)
- CHEM 8998 Non-thesis Research, approx. 6 CH.
 - You should register for enough credit hours of 8998 so that your total hours are 18 (or as near to 18 as possible). You must register for class number 29229.
 - Do not register for 8998 with class number #29230 (Sherwin Singer, instructor). That section is reserved for students in the Chemical Physics graduate program

ESL Classes

Non-native English speakers who receive a 0-2.75 on the Oral Proficiency Assessment (OPA) are recommended to take EDUTL 5040 (4 CH), and students who receive a 3-3.75 generally are recommended to take EDUTL 5050 (3 CH). EDUTL 5060 or EDUTL 5030 may also be recommended at any score level. Chemistry graduate students are required to take all recommended spoken English ESL courses until they achieve full teaching certification (OPA or OPCA score of 4 or greater).

International students may also be required to take EDUTL 5901 (3 CH) and/or EDUTL 5902 (3 CH) to demonstrate written English proficiency. These classes must be completed by the end of the first year. In general, you should defer your written English classes to Spring or Summer. If required, it is best to complete EDUTL 5901 in Spring, because of limited course availability in the Summer. When the option exists, all students are advised to enroll in an in-person section of EDUTL 5901 &/or 5902.

Divisional Requirements

Prior to registering for Autumn 2023 courses, incoming graduate students will be required to declare a division (Analytical, Biological, Chemical Education, Inorganic, Organic, Physical) to join when they enroll in the Chemistry PhD Program in Autumn. The courses for which a student registers will be determined based on the course requirements of the division they join. It is possible to switch divisions later, but doing so often increases the number of classes that a student has to take in order to meet the new division's requirements. If a student's research interests overlap two divisions, the student will be eligible to apply for the Multidisciplinary Track (MT) after the student has selected a research advisor. The Multidisciplinary Track allows the student and advisor to create a custom curriculum that combines classes and requirements from two or more divisions. If you are considering labs in two divisions, you could consider registering for elective classes in the non-major division, so that you can create an MT curriculum later in your program.

Analytical Division

The temporary advisor for the Analytical division is Abraham Badu-Tawiah (badu-tawiah.1@osu.edu).

Analytical Division Curriculum Requirements

- 18 credit hours of graded (A-E) graduate lecture classes are required, in addition to program requirements, seminar, and research (CHEM 6780, 6781, 6782, 8891, 8998/8999).

CHEM 6780	Faculty Research Presentations	1 CH
CHEM 6781	Laboratory Safety	1 CH
CHEM 6782	Ethics in Scientific Research	1 CH
CHEM 8891	Analytical Chemistry Seminar	1 CH
CHEM 8998	Non-thesis Research	1-15 CH
CHEM 8999	Thesis Research	1-15 CH

- Required classes: CHEM 6110, 6120 (3 CH)

CHEM 6110	Survey of Instrumental Methods	1.5 CH
CHEM 6120	Analytical Data Treatment	1.5 CH

- Analytical electives: 9 credit hours of CHEM 71xx classes OR 6 credit hours of CHEM 71xx classes and 3 credit hours of BIOCHEM 6765.02

CHEM 7120	Electrochemistry	3 CH
CHEM 7130	Fundamentals & Techniques of Separation Science	3 CH
CHEM 7140	Analytical Spectroscopy	3 CH
CHEM 7150	Mass Spectrometry	3 CH
CHEM 7160	NMR Spectroscopy	3 CH
CHEM 7170	Analytical Surface Science	3 CH
BIOCHEM 6765.02	Advanced Biochemistry: Physical Biochemistry	3 CH

- Other electives: 6 credit hours of graduate classes outside the Analytical division (6000+)
 - Elective courses outside the division may include but are not limited to: Biochemistry 6761; Inorganic Chemistry 6320, 6330, 7320, 7360; Organic Chemistry 6440, 7440; Physical Chemistry 6520, 6530, 7520, 7540, 7550.

BIOCHEM 6761	Advanced Biochemistry	3 CH
CHEM 6320	Synthetic Principles in Inorganic	1.5 CH
CHEM 6330	Group Theory and Bonding	1.5 CH
CHEM 7320	Organometallic Chemistry	1.5 CH
CHEM 7360	Bioinorganic Chemistry	1.5 CH
CHEM 6440	Intro to Physical Organic Chemistry	1.5 CH
CHEM 7440	Kinetics, Catalysis, & Transition State Theory	1.5 CH
CHEM 6520	Thermodynamics	1.5 CH
CHEM 6530	Kinetics	1.5 CH
CHEM 7520	Advanced Quantum Mechanics	3 CH
CHEM 7540	Chemical Dynamics	3 CH

In the first term, students typically enroll in CHEM 6110, 6120, an available 71xx course, and three additional credit hours outside the division.

Other requirements:

Students must complete 12-15 credit hours of lecture courses (graded A-E) during the Autumn and Spring semesters of the first year.

A poster session will be held at the end of the Summer term in which the first-year students will have the opportunity to report on their progress and to discuss their research with other students and faculty. All first-year students must present a poster. A brief written description of the poster presentation shall be provided, in advance, to the Analytical division secretary.

Biochemistry Division

The temporary advisor for the Biochemistry division is Dr. Marcos Sotomayor (sotomayor.8@osu.edu).

Biochemistry Division Curriculum Requirements

- 15 credit hours of graded (A-E) graduate lecture classes are required, in addition to program requirements, seminar, and research (CHEM 6780, 6781, 6782, 8892, 8998/8999).

CHEM 6780	Faculty Research Presentations	1 CH
CHEM 6781	Laboratory Safety	1 CH
CHEM 6782	Ethics in Scientific Research	1 CH
CHEM 8892	Biochemistry Seminar	1 CH
CHEM 8998	Non-thesis Research	1-15 CH
CHEM 8999	Thesis Research	1-15 CH

- Required classes: BIOCHEM 6761, 6762, 6763 (6 CH)

BIOCHEM 6761	Advanced Biochemistry	3 CH
BIOCHEM 6762	Advanced Biochemistry: Enzymes	1.5 CH
BIOCHEM 6763	Advanced Biochemistry: Membranes and Lipids	1.5 CH

- Biochemistry electives: 6 credit hours of graduate classes should be in the area of Biochemistry or related disciplines. Classes outside the department may count toward this requirement with permission of the division.
 - Recommended Biochemistry electives include: BIOCHEM 6701 Molecular Biology, BIOCHEM 6765 Physical Biochemistry, BIOCHEM 7766 Nucleic Acids, BIOCHEM 7770 Protein Engineering, BIOCHEM 8900 Biomolecular NMR, BIOCHEM 8990 Advanced Topics, CHEM 7360 Bioinorganic Chemistry, MICRO 8050 RNA World.
- Other electives: 3 credit hours of graduate classes must come from outside Biochemistry

In the first term, in addition to BIOCHEM 6761, it is recommended for students with molecular biophysics interests to take CHEM 6520 and 6530 (Thermodynamics and Kinetics). For students with chemical biology interests, the recommended classes are either the physical organic (CHEM 6420 and 6430) or synthetic organic (CHEM 6410 and 6440) classes. BIOCHEM 6701 is recommended for students with molecular biology interests.

CHEM 6520	Thermodynamics	1.5 CH
CHEM 6530	Kinetics	1.5 CH
CHEM 6420	Stereochemistry and Conformational Analysis	1.5 CH
CHEM 6430	Intro to Organic Synthesis	1.5 CH
CHEM 6410	Basic Organic Reaction Mechanisms	1.5 CH
CHEM 6440	Intro to Physical Organic Chemistry	1.5 CH
BIOCHEM 6701	Advanced Biochemistry: Molecular Bio	3 CH

Other requirements:

First year students must participate in three laboratory rotations (approximately 4-5 weeks each) during the Autumn term with three different professors in the Department. The rotation schedule will be determined by the Biochemistry Division. Students are not required to join the lab of a professor with whom they have completed a rotation.

Chemical Education Division

The temporary advisors for the Chemical Education division are Dr. Jocelyn Nardo (jnardo@stanford.edu; joining OSU in SU23) and Dr. Matthew Wu (wumm@miamioh.edu; also joining OSU in SU23).

Chemical Education Division Curriculum Requirements

- 19 credit hours of graded (A-E) graduate lecture classes are required, in addition to program requirements, seminar, and research (CHEM 6780, 6781, 6782, 889x, 8998/8999).

CHEM 6780	Faculty Research Presentations	1 CH
CHEM 6781	Laboratory Safety	1 CH
CHEM 6782	Ethics in Scientific Research	1 CH
CHEM 889x	Divisional Seminar (student should register for the seminar section for their cognate sub-discipline)	1 CH
CHEM 8998	Non-thesis Research	1-15 CH
CHEM 8999	Thesis Research	1-15 CH

- Required classes:* 3 credit hours of Chemical Education courses (course codes TBD) in addition to ESQUAL 7256, ESQREM 6641, and EDUTL 7725 (13 CH).

ESQUAL 7256	Qualitative Research in Higher Education Settings	3 CH
ESQREM 6641	Introduction to Educational Statistics	4 CH
EDUTL 7725	The Nature of Science and Implications for Science Teaching	3 CH

- Required electives in cognate sub-discipline:* 6 credit hours of coursework in the chosen cognate sub-discipline.
- Additional Electives:* Although additional electives are not required, the following courses are suggested as electives that may be valuable: ESEPSY 7402, 7403, 7404; ESQUAL 8280, 8285, 8290; ESQREM 6661, 7648, 7658; ESPHSE 7414, 8411; EDUTL 7014, 7016, 7025, 7035; ESPHE 5440; ENTMLGY 7910. All other electives require permission from the chemical education division.

In the first Autumn semester, students should enroll in required 6000-level core courses for their chosen subdiscipline and in either ESQUAL 7256 or ESQREM 6641.

Inorganic Division

The temporary advisor for the Inorganic division is Dr. Yiyang Wu (wu.531@osu.edu).

Inorganic Division Curriculum Requirements

- 18 credit hours of graded (A-E) graduate lecture classes are required, in addition to program requirements, seminar, and research (CHEM 6780, 6781, 6782, 8893, 8998/8999).

CHEM 6780	Faculty Research Presentations	1 CH
CHEM 6781	Laboratory Safety	1 CH
CHEM 6782	Ethics in Scientific Research	1 CH
CHEM 8893	Inorganic Seminar	1 CH
CHEM 8998	Non-thesis Research	1-15 CH
CHEM 8999	Thesis Research	1-15 CH

- Required classes: CHEM 6310, 6320, 6330, 6340 (6 CH)

CHEM 6310	Fundamentals of Coordination Chemistry	1.5 CH
CHEM 6320	Synthetic Principles in Inorganic	1.5 CH
CHEM 6330	Group Theory and Bonding	1.5 CH
CHEM 6340	Physical Methods in Inorganic Chemistry	1.5 CH

- Inorganic electives: 4.5 credit hours of Inorganic classes at the 7000-level or above (CHEM 7310, 7320, 7330, 7340, 7350, 7360, 7370, 7380, 8399).

CHEM 7310	Bioinspired Energy Conversion	1.5 CH
CHEM 7320	Organometallic Chemistry	1.5 CH
CHEM 7330	Solid State Chemistry	1.5 CH
CHEM 7340	Diffraction Models	1.5 CH
CHEM 7350	Inorganic Photochemistry	1.5 CH
CHEM 7360	Bioinorganic Chemistry	1.5 CH
CHEM 7370	Nanochemistry & Nanomaterials	1.5 CH
CHEM 7380	Inorganic Materials	1.5 CH
CHEM 8399	Advanced Topics in Inorganic Chemistry	1.5-3 CH

- Other electives: 7.5 additional graduate credit hours.
 - A minimum of 3 credit hours of graduate classes must come from outside the Inorganic division.
 - A minimum of 3 credit hours must be at the 7000-level or above.
 - 7000+ level electives outside the Inorganic division should be discussed with the advisor.

In the first Autumn, students should enroll in CHEM 6310, 6320, 6330 and 6340, and 3 credit hours of 6000-level classes outside the Inorganic division. Students with materials, photochemistry, or physical inorganic chemistry interests are encouraged to take CHEM 6520, 6530, or 6540 (thermodynamics, kinetics, or electronic structure); Organic electives (CHEM 6410, 6420, 6430, 6440) may also be reasonable options for students interested in synthetic inorganic or organometallic chemistry. In the first Spring, students typically enroll in 9 credit hours of 7000+ classes in consultation with their research advisor.

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CHEM 6520	Thermodynamics	1.5 CH
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CHEM 6530	Kinetics	1.5 CH
CHEM 6540	Intro to Electronic Structure	1.5 CH
CHEM 6410	Basic Organic Reaction Mechanisms	1.5 CH
CHEM 6420	Stereochemistry and Conformational Analysis	1.5 CH
CHEM 6430	Intro to Organic Synthesis	1.5 CH
CHEM 6440	Intro to Physical Organic Chemistry	1.5 CH

Organic Division

The temporary advisor for the Organic division is Dr. Jon Parquette (parquette.1@osu.edu).

Organic Division Curriculum Requirements

- 15 credit hours of graded (A-E) graduate lecture classes are required, in addition to program requirements, seminar, and research (CHEM 6780, 6781, 6782, 8894, 8998/8999).

CHEM 6780	Faculty Research Presentations	1 CH
CHEM 6781	Laboratory Safety	1 CH
CHEM 6782	Ethics in Scientific Research	1 CH
CHEM 8894	Organic Chemistry Seminar	1 CH
CHEM 8998	Non-thesis Research	1-15 CH
CHEM 8999	Thesis Research	1-15 CH

- Required classes: CHEM 5420, 6410, 6420, 6430, 6440 (7.5 CH)

CHEM 5420	Spectroscopy of Organic Compounds	1.5 CH
CHEM 6410	Basic Organic Reaction Mechanisms	1.5 CH
CHEM 6420	Stereochemistry and Conformational Analysis	1.5 CH
CHEM 6430	Intro to Organic Synthesis	1.5 CH
CHEM 6440	Intro to Physical Organic Chemistry	1.5 CH

- Electives: Either CHEM 7450 or 7460 is required (1.5 CH).

CHEM 7450	Metals in Organic Synthesis	1.5 CH
CHEM 7460	Advanced Organic Reaction Mechanisms	1.5 CH

- 6 additional graduate credit hours, which may include CHEM 7470, CHEM 8499, or classes outside the Organic division, are required.

CHEM 7470	Computational Chemistry	1.5 CH
CHEM 8499	Advanced Topics in Organic Chemistry	1.5-3 CH

- 3 credit hours of graduate classes must come from outside the Organic division.

In the first term, students should enroll in CHEM 6410, 6420, 6430, and 6440, in addition to 3 credit hours outside the Organic division.

Other requirements:

Organic division students are not *required* to carry out lab rotations, but are *permitted* to do so. Once a mutually agreeable rotation assignment is found, the rotation must be reported to the organic division secretary before beginning. The rotation period is a maximum of 4 weeks. All rotations must be within the department. Students are not required to join a lab in which they have done a rotation.

Physical Division

The temporary advisor for the Physical division is Dr. John Herbert (herbert.44@osu.edu).

Physical Division Curriculum Requirements

- 18 credit hours of graded (A-E) graduate lecture classes are required, in addition to program requirements, seminar, and research (CHEM 6780, 6781, 6782, 8895, 8998/8999).

CHEM 6780	Faculty Research Presentations	1 CH
CHEM 6781	Laboratory Safety	1 CH
CHEM 6782	Ethics in Scientific Research	1 CH
CHEM 8895	Physical Chemistry Seminar	1 CH
CHEM 8998	Non-thesis Research	1-15 CH
CHEM 8999	Thesis Research	1-15 CH

- Required classes: CHEM 6510, 6520, 6530, 6540, 7520, 7550 (12 CH)

CHEM 6510	Quantum Mechanics and Spectroscopy	1.5 CH
CHEM 6520	Thermodynamics	1.5 CH
CHEM 6530	Kinetics	1.5 CH
CHEM 6540	Intro to Electronic Structure	1.5 CH
CHEM 7520	Advanced Molecular Quantum Mechanics	3 CH
CHEM 7550	Statistical Thermodynamics	3 CH

- Physical electives: Either CHEM 7530 or 7540 is required (3 CH)

CHEM 6550*	Atmospheric Chemistry	3 CH
CHEM 7530	Advanced Molecular Spectroscopy	3 CH
CHEM 7540	Chemical Dynamics	3 CH
CHEM 7580*	Lasers & Optics	3 CH
CHEM 7590	Molecular Simulation of Materials	3 CH
CHEM 8599	Advanced Topics in Physical Chemistry	1.5 - 3 CH

- Other electives: 3 credit hours of graduate classes must come from outside the Physical division.
 - Typical out-of-division electives include: CHEM 6110, 7330, 6330, 6340, 6420, 6440, 7140, 7150, 7160, 7350, 7380, 7440, 7460, 7470; physics classes PHYS 5300, 5400, 6804, 8804, 8820; math classes MATH 4512, 4551, 4552, 4568, 5101, 5102.
 - Recommended out-of-division electives are CHEM 6550-Atmospheric Chemistry (AU23), CHEM 7580-Lasers & Optics (SP24), CHEM 6330-Group Theory (AU23), CHEM 6340-Physical Methods in Inorganic Chemistry (AU23), CHEM 7350-Inorganic Photochemistry (TBD), and CHEM 7470-Computational Chemistry (SP24).

*CHEM 6550 (Atmospheric Chemistry) or CHEM 7580 (Laser & Optics) will also satisfy the out-of-division (breadth) requirement. CHEM 6550 is offered in AU23. CHEM 7580 will not be offered during 2023-24, but will be offered in a future semester.

In the first term, students typically enroll in 9 credit hours, including CHEM 6510, 6520, 6530, and 6540. Students with interests in theory who have not taken a class in linear algebra can enroll in MATH 5101 or another math class recommended by the temporary advisor.

Graduate Courses - Autumn 2023

Autumn 1 (7 weeks)

Autumn 2 (7 weeks)

Full Semester (14 weeks)

Required Courses for all First-Year Students

[CHEM 6780 Faculty Research](#) (TBA)

TR 5:30-7:30 PM; CBEC 130

[CHEM 6781 Lab Safety](#) (Moore)

Tu 5:30-7:30; CBEC 130

[CHEM 8998](#) (Register under #29229; instructor TBA)

Analytical

[CHEM 6110 Survey of Instrumental Methods](#)

(Badu-Tawiah)

MWF 1:50-2:45 PM; Scott Lab E103

[CHEM 6120 Analytical Data Treatment](#)

(Schultz)

MWF 1:50-2:45 PM; Scott Lab E103

[CHEM 7160 Analytical Spectroscopy](#) (Jaroniec)

TR 11:10AM-12:30PM; McPherson 1008

Biochemistry

[BIOCHEM 6701 Advanced Biochem-Molecular Biology](#) (Gopalan)

TR 9:35-10:55 AM; Biological Sciences Bldg 668

[BIOCHEM 6761 Advanced Biochem-Macromolecular Structure & Function](#) (Foster/Belyy)

MWF 10:20-11:15 AM; Orton Hall 110

Chemical Education

[ESQUAL 7256 Qualitative Research in Higher Education Settings](#) (Pasque)

M 2:20PM-5:05PM; Evans Lab 2003

[ESQREM 6641 Introduction to Educational Statistics](#) (Various)

Days, times, and instructors vary based on section offering

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Inorganic	
CHEM 6310 Fundamentals of Coordination Chem (Zhang) MWF 9:10-10:05 AM; Evans Lab 2003	CHEM 6320 Synthetic Principles Inorg Chem (Thomas) MWF 9:10-10:05 AM; Evans Lab 2003
CHEM 6330 Group Theory & Bonding (TBA) MWF 10:20-11:15 AM; Ramseyer Hall 110	CHEM 6340 Physical Methods Inorg Chem (Goldberger) MWF 10:20-11:15 AM; Ramseyer Hall 110
Organic	
CHEM 6410 Synthesis I/Basic Organic Reaction Mechanisms (Forsyth) MWF 3:00-3:55 PM; McPherson Lab 1046	CHEM 6430 Synthesis II/Intro to Org Synth (Parquette) MWF 3:00-3:55 PM; McPherson Lab 1046
CHEM 6420 Physical Organic I/Stereochem & Conf Analysis (McGrier) MWF 12:40-1:35 PM; Evans Lab 2001	CHEM 6440 Phys Org II/Intro to Phys Org Chem (Bong) MWF 12:40-1:35 PM; Evans Lab 2001
Physical	
CHEM 6510 Quantum Mechanics & Spectroscopy (Sokolov) MWF 3:00PM-3:55PM; McPherson Lab 1040	CHEM 6520 Thermodynamics (Lindert) MWF 11:30-12:25 PM; Evans Lab 2003
CHEM 6530 Kinetics (Allen) MWF 11:30-12:25 PM; Evans Lab 2003	CHEM 6540 Intro Electronic Structure (Herbert) MWF 3:00PM-3:55PM; McPherson Lab 1040
CHEM 6550 Atmospheric Chemistry (Allen) TR 12:45PM-2:05PM; Derby Hall 060	
Seminars	
CHEM 8891 Analytical Seminar (Badu-Tawiah); M 4:10-5:20 PM; CBEC 130	
CHEM 8892 Biochemistry Seminar (Belyy); R 4:10-5:20 PM; Psychology Bldg 006	
CHEM 8893 Inorganic Seminar (Wade); W 4:10-5:20 PM; CBEC 130	
CHEM 8894 Organic Seminar (Sevov); W 4:10-5:20 PM; CBEC 130	
CHEM 8895 Physical Seminar (Sokolov); M 4:10-5:20 PM; CBEC 130	