

# Inorganic Chemistry Lab Syllabus

## CH 345, Fall 2011, Dr. Schmidt

Thursday 1-2 pm Lecture, Thursday 2-5pm Lab, ST106

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Office hours: MWF 11-11:50am or as arranged

**Purpose:** "Emphasis on inorganic preparations and analytical and physical measurements on inorganic and organometallic compounds with computer assisted analysis of data." As CH 345 is designed to be a Junior or Senior level course, significant focus will be placed on 1) the complete process of synthesis to characterization of compounds, 2) independent student work, and 3) scientific communication skills (e.g. the lab notebook and multiple draft project reports).

**Prerequisite:** CH 152 and CH 342

### Textbook etc.:

- *Synthesis and Technique in Inorganic Chemistry*, 3<sup>rd</sup> ED. by G. Girolami, T. Rauchfuss, R. Angelici, 1999 (required)
- *Student Lab Notebook*, Hayden-McNeil Specialty Products (required)
- A ½ in. three-ring binder with tabs (required)
- An Inorganic Chemistry Lecture Text, (available in Mabee Library and Chemistry Department)
- *ACS Style Guide*, J. S. Dodd (in Reference Section at Mabee Library and Chemistry Department Office)

**Attendance:** Class attendance is required. The instructor must be notified by e-mail and in person at least two weeks prior to any potentially excused absence. In the very unlikely case of a dire emergency, you must immediately notify your instructor by phone or in person and then request an excuse by e-mail once the situation has passed. For any excused absence, the student is required to make arrangements with the instructor and a lab partner to make up any missed experiments.

Laboratory participation is required for the successful completion of this course. If you are pregnant or become pregnant during this semester you should consult with your physician to decide if it is advisable for you to continue with this chemistry course. You may obtain a list of chemicals used during labs from your instructor.

**Grading:** The final grade in this course will be based on preparation, technique, documentation the lab notebook, understanding of chemical concepts, culminating in communication of those concepts in a formal multiple draft report as well as a final exam. Lab grades will be assessed on a per project basis. Percentages are as follows:

Project 1	Computation of Physical Properties of Benzene and a Porphyrin	10%
Project 2	The Borane-Amine Adduct $\text{BH}_3\text{:NH}_2\text{C}(\text{CH}_3)_3$	14%
Project 3	Tin Chemistry: Coordination Complexes and Organometallic Derivatives	18%
Project 4	Coordination Chemistry of Mn and Co	18%
Project 5	Individual "mixed bag project"	30%
	Final Exam	10%

**Project report:** Project reports are to conform to both the ACS-CPT "Guidelines for Preparing a Research Report" (<http://www.washburn.edu/cas/chemistry/files/ACS-research-report-guidelines.pdf>) and the *ACS Style Guide*, by J. S. Dodd. Each Project Report will be submitted in a three ring binder, which will include clearly marked sections for: *Revised Project Report, Original Project Report, Copies from the Lab Notebook, Original Copies of Instrument Data, Copies of References, Copies of MSDS's* for all compounds used. A 10% per day late fee will be assessed for all late reports.

**Safety and Lab Notebook:** Refer to the Introduction section of the lab text. Safety is of paramount importance, and so safety procedures should be followed throughout the lab. A few additional notes about the laboratory notebook:

- It should be treated as a legal document. Use only permanent, black ink. All errors should be crossed out with a single line, date and initial. Don't worry, mistakes happen to all of us.
- All procedures must start with a safety section.
- Before lab work begins and before you leave, you must have your instructor initial your notebook.
- Be very clear and organized. It takes a lot of work to fight the entropy!!!

"Chemistry requires rigorous and meticulous habits."

# UNIVERSITY ADDITIONS – COURSE SYLLABUS

## **Mission of the University:**

Washburn University enriches the lives of students by providing opportunities for them to develop and to realize their intellectual, academic, and professional potential, leading to becoming productive and responsible citizens. We are committed to excellence in teaching, scholarly work, quality academic and professional programs, and high levels of faculty-student interaction. We develop and engage in relationships to enhance educational experiences and our community. *Washburn University Board of Regents, 2010*

## **Definition of a Credit Hour:**

For every credit hour awarded for a course, the student is typically expected to complete approximately one hour of classroom instruction, online interaction with course material, or direct faculty instruction and a minimum of two additional hours of student work each week for approximately 15 weeks for one semester or the equivalent amount of work over a different amount of time.

## **Academic Misconduct Policy:**

All students are expected to conduct themselves appropriately and ethically in their academic work. Inappropriate and unethical behavior includes (but is not limited to) giving or receiving unauthorized aid on examinations or in the preparation of papers or other assignments, or knowingly misrepresenting the source of academic work. Washburn University's Academic Impropriety Policy describes academically unethical behavior in greater detail and explains the actions that may be taken when such behavior occurs. For guidelines regarding protection of copyright, consult

[www.washburn.edu/copyright/students](http://www.washburn.edu/copyright/students). For a complete copy of the Academic Impropriety Policy, contact the office of the Vice President for Academic Affairs, Bradbury Thompson Alumni Center Suite 200, or go on-line to:  
[www.washburn.edu/admin/vpaa/fachdbk/FHsec7.html#VIII](http://www.washburn.edu/admin/vpaa/fachdbk/FHsec7.html#VIII)

## **Disability Services:**

The Student Services Office is responsible for assisting in arranging accommodations and for identifying resources on campus for persons with disabilities. Qualified students with disabilities must register with the office to be eligible for services. The office MUST have appropriate documentation on file in order to provide services. Accommodations may include in-class note takers, test readers and/or scribes, adaptive computer technology, brailled materials. Requests for accommodations should be submitted at least two months before services should begin; however, if you need an accommodation this semester, please contact the Student Services Office immediately.

Location: Student Services, Morgan Hall Room 135 (new location)

Phone: 785-670-1629 or TDD 785-670-1025

E-Mail: [student-services@washburn.edu](mailto:student-services@washburn.edu)

Students may voluntarily identify themselves to the instructor for a referral to the Student Services Office.

## **Office of Academic Advising:**

As a Washburn student, you may experience difficulty with issues such as studying, personal problems, time management, or choice of major, classes, or employment. The Office of Academic Advising is available to help students either directly through academic advising, mentoring, testing and developing learning strategies or by identifying the appropriate University resource. If you feel you need someone with whom to discuss an issue confidentially and free of charge, contact Academic Advising in Morgan 122, 785-670-1942, [advising@washburn.edu](mailto:advising@washburn.edu).

## **Withdrawal Policy:**

During fall and spring semesters, students may go online and withdraw from full semester courses through the second week of class with no recorded grade. From the third through the eleventh week a "W" is recorded for any dropped course. After the eleventh week, there are NO withdrawals, and a grade will be assigned for the course (View dates of deadlines by linking to the appropriate academic calendar <http://www.washburn.edu/admin/vpaa/calendars.html>). For short-term or summer course deadlines, please check the appropriate Semester/Session Course Bulletin Web Site ([www.washburn.edu/schedule](http://www.washburn.edu/schedule))

## **Attendance/Administrative Withdrawal:**

Although it is the student's responsibility to initiate course withdrawals, an instructor, after due notice to the student, may request withdrawal of the student from a course because of nonattendance through the same date as the last day a student may withdraw from a course. This would NOT absolve the student of financial responsibility for tuition/fees for the course in question. The inclusion of this information in the course syllabus is considered due notice.

## **Official E-Mail Address:**

Your Washburn University e-mail address will be the official address used by the University for relaying important messages regarding academic and financial information and the University will consider this your official notification for important information. It may also be used by your instructors to provide specific course information. If you prefer to use an alternate e-mail address to receive official University notices, you can access your MyWashburn e-mail account, choose the "Options" tab, and select "Settings", scroll to the bottom of the screen, click enable forwarding and enter the e-mail address you would like your Washburn emails forwarded to in the "mail forwarding" area. Click add and the click on save changes. This will complete the process of forwarding your Washburn e-mail. It is your responsibility to ensure that your official e-mail box does not exceed your message quota resulting in the inability of e-mail messages to be accepted into your mailbox.

## **Success Week:**

Success Week for undergraduate students is designated as the five week days preceding the first day of scheduled final examinations each Fall and Spring semester. Success Week is intended to provide students ample opportunity to prepare for final examinations. For academic programs, the following guidelines apply:

A. Faculty are encouraged to utilize Success Week as a time for review of course material in preparation for the final examination. If an examination is to be given during Success Week, it must not be given in the last three days of Success Week unless approved by the Dean or Department Chair. Assignments worth no more than 10% of the final grade and covering no more than one-fourth of assigned reading material in the course may be given.

B. Major course assignments (extensive research papers, projects, etc.) should be due on or before the Friday prior to Success Week and should be assigned early in the semester. Any modifications to assignments should be made in a timely fashion to give students adequate time to complete the assignments.

C. If major course assignments must be given during Success Week, they should be due in the first three days of Success Week. Exceptions include class presentations by students and semester-long projects such as a project assignment in lieu of a final. Participation and attendance grades are acceptable.

The Success Week policy excludes make-up assignments, make-up tests, take-home final exams, and laboratory examinations. It also does not apply to classes meeting one day a week for more than one hour. All University laboratory classes are exempt from this policy.