**Dr. Sobel, Professor Francesca Pavlovici**

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Blackboard class site is active!! [www.hofstra.edu](http://www.hofstra.edu)

**Lecture**: MWF 10:10 – 11:05 am, Room 117 Berliner Hall

**Recitation**: section 01: T 12:45 – 1:40 pm, Room 117 Berliner Hall

section 02: T 10:05 -11:00 am, Room 109 Berliner Hall

**Office Hours**: Room 106D Berliner Hall

TWR 11:15 am – 12:15 pm. I have a very busy schedule this semester with three classes and two labs.

I am not always in my office, but don't give up! Places to look for me include: 106 Berliner (Main Office), 315 Berliner (my lab). If all else fails, ask the secretary (Mrs. Castoria) in the Main Office to help find me. I am always willing to help you. Other meeting times are available by appointment.

**Required Texts**: Chemistry, OpenStax (<https://cnx.org/contents/havxkyvS@9.351:uXg0kUa-@4/Introduction>), and Descriptive Inorganic Chemistry 6th Ed., by Rayner-Canham and Overton (R&O)

**Grading**

Hour Exams (3x100 pts. ea.) 300 pts

Sapling Homework 100 pts

Group Work 80 pts

Attendance/participation 20 pts

Final Exam 100 pts

**TOTAL 600 pts**

**Recommended study habits:** Organization of notes is key! This course is an overview of inorganic chemistry and covers a diverse array of topics. It serves as foundation for further learning. Make lists of formulae and terminology for study and reference (textbook has glossary). Remember, you are learning a new language. You should complete all practice problems in preparation for exams. Homework problems at the end of each chapter are organized according to topics; for K&T, these are available through Sapling. There is a separate list of conceptual problems as well. Use these to test your understanding of concepts and prepare for essay questions on exams. My goal is to teach the class to: (1) think as Chemists and (2) be familiar with and able to use chemical language. Lectures will be interactive.

**Lecture attendance:** Four excused absences are allowed. For each absence beyond that amount, the Attendance/participation grade will be lowered by 2 points. Lecture outlines of missed lectures are available on the Blackboard website. These should **NOT** be considered a substitute for attendance since they are guidelines for my lectures, not comprehensive notes. If you miss a lecture, get the notes of a fellow student as well.

**Blackboard:** Outlines and PowerPoint presentations of my lectures are available on Blackboard. I plan to use Blackboard extensively during the semester. You will find information about preparation for exams, posted one week before the scheduled exam. Grades on exams will be posted on Blackboard.

**Email:** This is a great way to communicate; between email and Blackboard, you should be able to keep up-to-date on assignments in the class. I will send updates in the schedule and exam outlines via email and posted on Blackboard. You can communicate with me via email. I check my email every day, and respond promptly to questions.

**Recitations/ Group Work:** This is an in-class exercise, on Tuesday meetings of class. You will be graded on your participation in Group Work. Work in groups of 3-4 students, designate one student as the secretary for the day (rotate this job), and hand in your group work on one sheet with all of your names. There will be 8 Group Work sessions. You must participate in all of them to earn full credit. If you have a legitimate excuse, you can complete the Group Work on your own and hand in your work for up to two GW assignments. Remember to sign the attendance sheet! Answer keys will be posted on Blackboard.

**Sapling online homework:** I have set up a comprehensive group of homework questions for this course. Register for Hofstra University - CHEM 139 - Spring18 - SOBEL. It is the first of its kind at Sapling. I have used already developed questions for common topics with General Chemistry, and have developed about 90 new questions. Since this is a work in progress, I will consider full credit work as 90% of total points, which allows for bugs in the newly developed questions. Your feedback is critical for improvement. Please email me with any fixable bugs. Since this is commercial product, you will have to purchase access for the semester. The Sapling homework system will be used in the Foundations of Organic Chemistry course as well.

**Exam Format:** 10 Multiple Guess/Short Answer Questions (These will be based on quizzes)

3-5 Long-answer Problems. See practice exam for preparation. Exams will start at 7:30 am on select Tuesdays.

10 MG/SA x 2 pts. each = 20 pts.

Long problems = 80 pts.

Total = 100 pts.

1 extra credit problem = 10 pts **Bonus**

**Final Exam:** The final exam will be comprehensive in the multiple-choice section, and the long-answer problems will focus on the last topics covered. It is scheduled for 8:00 am – 10:00 am on Friday 5/18/18 in room 117 Berliner. No one is exempt from the final.

30 MG/SA x 2 pts. each = 60 pts.

Long problems = 40 pts.

Total = 100 pts.

1 extra credit problem = 10 pts **Bonus**

**Peer Teacher:** We are fortunate to have Peer Teacher for this class. She is Fran Pavlovici, a dual Chemistry /Sustainability Studies major. She will be available for help in and outside of class. [fpavlovic1@pride.hofstra.edu](mailto:fpavlovic1@pride.hofstra.edu)

**Extra Credit:** My normal policy is to allow students to earn up to 20 points extra credit during the semester. You can achieve this goal by attending/summarizing four seminars, or I will provide an extra credit question up to 20 points, but not above that amount.

**Outcomes Assessment** Students should:

1. Be able to analyze questions in topics of Inorganic Chemistry.
2. Be able to work effectively in a group to solve scientific problems that pertain to Inorganic Chemistry.
3. Receive a solid foundation in Inorganic Chemistry.

**Semester Schedule**

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| --- | --- | --- | --- | --- |
| **Week** | **M** | **T** | **W** | **F** |
| 1/29 | NOVA episode | Recitation/  Group Work | Intermol. Forces/ Liquids  K&T: Ch. 11 | Solutions  K&T: Ch. 13,  The Periodic Table |
| 2/05 | pH, KA, KB & Ksp  K&T Chs. 16-17 | Recitation/  Group Work | S and G  K&T Ch. 18 | Covalent Bonding  R&O: Ch. 3  Skip 3.13, 3.14 |
| 2/12 | Metallic Bonding/ Semiconductors  R&O: Ch. 4 | Recitation/  Group Work | Solid State/Unit Cells  K&T: Ch. 12  R&O: Ch. 4 | Ionic Solids/Unit Cell  K&T: Ch. 12  R&O: Ch. 5 |
| 2/19 | ***No Classes*** | ***No Classes*** | Types of Solids: HSAB/Fajans Rules  R&O: Ch. 5 | Born-Haber Cycle  R&O: Ch. 6 |
| 2/26 | **Review for Exam 1** | **Exam 1:** K&T Chs. 11-18, R&O Chs. 1-4 | Salt Solution Thermo.  R&O: Ch. 6 | Solvents&Acids/Bases  R&O: Ch. 7 |
| 3/05 | HSAB Theory/ Trends, R&O:Ch. 7 | ***Return Exam 1*** | Salts and pH  K&T Ch. 17 | Redox Eqns/ E°  K&T: Ch. 19  R&O : Ch. 8 |
| 3/12 | Nernst Equation  K&T: Ch. 19 | Recitation/  Group Work | Pourbaix/Frost Diagrams  R&O : Ch. 8 | Periodic Trends  R&O: Ch. 9 |
| 3/19 | ***Spring Break*** | ***Spring Break*** | ***Spring Break*** | ***Spring Break*** |
| 3/26 | Hydrogen  R&O: Ch. 10 | Recitation/  Group Work | Alkalis: R&O Ch.11 | Alkaline Earths  R&O: Ch. 12 |
| 4/02 | **Review for Exam 2** | **Exam 2**  K&T Ch. 19; R&O: Chs.5-10 | Grp. 13/Spinels  R&O: Ch. 13 | \*Grp. 14/Carbon  R&O Ch. 14 |
| 4/09 | Silicates  R&O: Ch. 14 | ***Return Exam 2*** | Group 15  R&O: Ch. 15 | Group 14  R&O: Ch. 14 |
| 4/16 | Group 16  R&O: Ch. 16 | Recitation/  Group Work | Group 17  R&O: Ch.17 | Group 18  R&O: Ch. 18 |
| 4/23 | TM Complexes  R&O: Ch. 19 | Recitation/  Group Work | TM Complexes  R&O: Ch. 19 | Crystal Field Theory  R&O: Ch. 19 |
| 4/30 | **Review for Exam 3** | **Exam 3**  R&O Chs. 11-19 | TM Periodic Trends  R&O: Chs. 20&21 | Rare Earths  R&O: Ch. 23 |
| 5/07 | Recitation/  Group Work | ***Return Exam 3*** | *Review* | *Reading/Study Day* |
| 5/14 |  |  |  | **Final Exam**  **8 – 10 am** |

\*Last Day to W