

Intermediate Chemistry Course Syllabus (Summer 2022)

Course Aims: The Intermediate Chemistry Course is an intensive, 12-week long course that prepares students for the NSB High School Regional and Middle School National Competitions. Students should note that the course will be rigorous and fast-paced, but they will see significant improvement in their earth science knowledge and Science Bowl skills if they put in the work.

Prerequisites: Algebra 2, Basic understanding of Physics, Chemistry experience recommended but not required.

What's Included:

- Weekly lectures on Zoom
- List of recommended reading material and supplemental resources
- 1-on-1 advising about study planning (by appointment)
- Access to exclusive discord server
- Seminars about study tips, buzzing strategies, teamwork skills
- Weekly Office Hours

Week 1: Jun 7th 5-7 PM PDT	Stoichiometry Atoms and Periodic Table
Week 2: Jun 14th 5-7 PM PDT	Types of bonds and common molecules Theories of bonding: VSEPR and MO and Lewis Structures
Week 3: Jun 21st 5-7 PM PDT	Ideal gas equation and Kinetic Molecular Theory Intermolecular Forces and Liquids
Week 4: Jun 28th 5-7 PM PDT	Solids and Inorganic Materials Chemistry Techniques I
Week 5: Jul 5th 5-7 PM PDT	Thermodynamics I Thermodynamics II
Week 6: Jul 12th 5-7 PM PDT	Physical Equilibria Chemical Equilibria
Week 7: Jul 19th 5-7 PM PDT	Kinetics Acids and Bases
Week 8: Jul 26th 5-7 PM PDT	Aqueous Equilibria Electrochemistry

Week 9: Aug 2nd 5-7 PM PDT	Main-group elements Main-group elements cont.
Week 10: Aug 9th 5-7 PM PDT	Coordination Chemistry Nuclear Chemistry
Week 11: Aug 16th 5-7 PM PDT	Organic Chemistry I Organic Chemistry II
Week 12: Aug 23rd 5-7 PM PDT	Organic Chemistry III Chemistry Techniques II

Note: If you are unable to attend a lesson, we can send you a recording of the lecture