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Chemistry 372: Inorganic Chemistry

Winter/Spring 2022

9:15 am on Mondays, Wednesdays, and Fridays. Location: Valders Hall Room 371.

--Click [here](#) for instructor contact information and the instructor's daily schedule (office hours).

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Course description: Chemistry 372 is a course including molecular and solid-state bonding and structure, molecular symmetry, and coordination and organometallic chemistry. Prerequisite: [CHEM 242](#).

"[Inorganic chemistry](#) covers a variety of diverse substances including not only molecular, coordination, organometallic, and nonmolecular compounds but also special materials such as metallobiomolecules, semiconductors, ceramics, and minerals. Furthermore, inorganic chemistry is concerned with all of the approximately 100 chemical elements with the sole exception of the major subdivision of carbon chemistry known as organic chemistry. The great

structural diversity of inorganic compounds makes them vitally important as industrial feedstocks, fine chemicals, catalysts, and advanced materials. Inorganic compounds such as metalloenzymes also play a key role in life processes.” —Preface to the Encyclopedia of Inorganic Chemistry

Click [here](#) for a brief video introduction to inorganic chemistry.

Click [here](#) for information about the Division of Inorganic Chemistry of the American Chemical Society.

Given that chemistry 372 is an upper-level college course, it is expected that a student will spend approximately four-to-six hours per week working OUTSIDE OF CLASS. The time required typically depends on one's preparation in chemistry before taking this course, the complexity of the material, and other factors. Work time OUTSIDE OF CLASS includes, but is not necessarily limited to, reading the text and/or watching videos and/or working problems contained therein, working quiz preparation (qp) problems, preparing for quizzes and/or exams and, if the student has questions or comments, consulting with chemistry instructor(s).

Luther College recognizes the importance of diversity within the classroom and is committed to providing an inclusive environment where all feel respected, valued and accepted. Scientific advancement occurs when individuals collaborate and bring different ideas together. Each individual's unique viewpoint and experiences bring important elements to the discussion of science, and accepting and embracing this diversity and will help in understanding the complex world in which we live.

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Text

<http://catalogue.pearsoned.co.uk/educator/product/Inorganic-Chemistry/9781292134147.page>

Tentative Syllabus

Chapter sections in anticipated order of appearance in the course:

3.1-3.8 (all of chapter 3);

2.3; 2.7

5.5-5.6; 5.8;

19.1-19.8 (all of chapter 19);

20.1; 20.3-20.13;

24.1-24.16 (all of chapter 24);

25.1-25.9 (all of chapter 25);

26.1-26.5 (all of chapter 26);

6.1-6.18 (all of chapter 6).

Time permitting: Part or all of chapters 27, 28, and/or 29.

Homework problems

These are posted on the course master schedule available to students through the course KATIE site.

Exams

There will be two, hour-long exams. It is assumed that all work, calculations, explanations, etc., should be shown on exam problems.

Final Exam

<https://www.luther.edu/registrar/students/final-exam-schedule/> Final exam will be cumulative (comprehensive) and is, essentially, the last exam of the course. A standardized or in-house exam may be used. Depending on the nature of the final exam problems, all work, calculations, explanations, etc., should be shown on exam problems.

Class time

Class time will be used for quizzes, exams, and lectures and problem-working sessions to introduce topics.

Scoring

Homework: 25%.

Exams: 50%

Final: 25%

Total: 100%

The grading policy in this course is results-oriented. If a student can achieve the course goals with no effort at all, she/he can take pride in achieving results efficiently. If a student requires tremendous effort to achieve the course goals, she/he can take pride in overcoming adversity. Each of those is commendable in its own way, but in neither case will the degree of effort be reflected in the grade.

After all of the graded components are weighted into the average score, adjustments are made to ensure that this average is consistent with other 300-level chemistry courses. Scores are never curved down, so that a final average will always yield a letter grade at least as high as shown on the table below. There is no "extra credit" available. The following grading scale will be used.

A: 93-100%

A-: 90-92%

B+: 87-89%

B: 83-87%

B-: 80-82%

C+: 77-79%

C: 73-76%

C-: 70-72%

D+: 67-69%

D: 63-66%

D-: 60-62%

F: 0-59%

Scores, grades, etc., will usually be posted on katie.

Claude Mertenich maintained by [Claude Mertenich](#). Page last updated on 13 January 2022.

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