# SYLLABUS

# Chemical Elements in Living Systems (CHMD69H3)

# CHMD69H3, Winter 2022

## Instructor Information

| Instructor | Email | Office | Office hours: |
|---|---|---|---|
| Alen Hadzovic | alen.hadzovic@utoronto.ca | EV568 | considering current situation, office hours will be online and by appointment (**please e-mail me to set up the time**) |
| Sarah Forbes (librarian) | s.forbes@utoronto.ca | EV368 | |

## General Overview

*Chemical Elements in Living Systems* course (CHMD69H3) focuses on the world of inorganic chemistry in living systems. We shall concentrate on structure and reactivity of metalloproteins: proteins whose structure and/or function depend on the presence of one or more metallic centers; emphasizing their structure, reactivity and role in the living systems. Applications of analytical methods to the problems in biological inorganic chemistry will also be briefly discussed using specific examples. To follow the course material some background in following topics is very important and will be assumed through the course:

Inorganic chemistry: periodic table, electronic configurations, chemical reactivity, oxidation states/numbers, molecular geometry

Basic concepts from biochemistry (proteins, DNA and RNA)

Basic principles of structural methods in inorganic chemistry

Cell structure

Most of the background comes from the (p)-0.of

## Course Evaluation

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| Assignment<br>Abstract of your paper/ | 10% |

## Course readings

The course textbook is:
Bertini, I., Gray, H. B., Stiefel, E. I., and Valentine, J. S. (Eds.). *Biological inorganic chemistry: Structure and reactivity*. Mill Valley, CA: University Science Books, 2007.

This textbook is available as an ebook through the UofT library system, so you do not need to buy it.

Another important on-line source is *The Guided Tour of Metalloproteins*.

Also useful is your inorganic chemistry textbook:

Weller, Overton, Rourke, and Armstrong. **Shriver and A-**