



North South University
Department of Civil and Environmental Engineering (DCEE)
CHE 120: Inorganic Chemistry
Summer 2018

Course Outline

COURSE CODE: CHE 120 L

COURSE TITLE: Inorganic Chemistry (Lab)

COURSE INSTRUCTOR: Ms. Sifat Kalam

Lecturer, CEE

Room#SAC 738, Dept. of CEE

Email: kalam.sifat@northsouth.edu

(Please write "CHE 120_SEC No." in the subject line)

CLASS HOURS:

SECTION: Sec 1	DAYS: S	TIME: 02:40 - 05:50 PM	ROOM NO: LIB 601/SAC 726
SECTION: Sec 2	DAYS: T	TIME: 02:40 - 05:50 PM	ROOM NO: LIB 601/SAC 726
SECTION: Sec 3	DAYS: M	TIME: 02:40 - 05:50 PM	ROOM NO: LIB 601/SAC 726

OFFICE HOURS:

ST 11:20 AM-12:50 PM

MW 11:20 AM-12:50 PM and 01:00 PM-02:00 PM

Prerequisites: ENV 209

Contact Hours: Lecture – 3 Hours/week

COURSE DESCRIPTION: 3 Cr.

Laboratory introduction and safety protocol for inorganic chemistry lab experiments, pH measurements, acid base titration, measurement of chemical parameters of water (dissolved oxygen measurement, total dissolved solid measurement, etc.), precipitation reactions, solution chemistry, introduction to analytical chemistry (spectrophotometer analysis).

Course Objective:

The objectives of this course are:

1. To understand the knowledge of inorganic chemistry fundamentals.
2. To develop skill and concepts to solve problems in inorganic chemistry using math, science and chemistry concepts.
3. To understand the central role of chemistry in the context of our society, environment and sustainable development.

Course Outcomes (COs):

Upon successful completion of this course, students will be able to:

- CO1: apply knowledge of the fundamental chemical and scientific theories as relevant to inorganic chemistry.
- CO2: ability to use concepts and solve inorganic chemistry problems dealing with chemical bonds and equilibrium, thermo-chemistry, reaction kinetics.
- CO3: discuss the crucial role chemistry plays in our society and environment and utilize this as a basis for understanding safe handling and disposal of chemicals and various environmental issues facing our society.

TEXT BOOK:

1. OpenStax College, Chemistry, OpenStax College. 11 March 2015. Rice University, Houston, Texas, USA. (OC)
2. Ebbing D.D., Gammon S.D., General Chemistry (2007). Ninth Edition. Houghton Mifflin Company, Boston, New York, USA. (EG)

LABORATORY MATERIALS:

A lab folder (no loose pages), A4 papers, graph paper, lab coat, note book, pen (black ink), pencil, eraser, calculator, ruler

Students are responsible to bring all the above mentioned materials at every class and won't be allowed in the class without these.

AVAILABILITY OF COURSE MATERIALS:

All the lecture notes are available at the university common folder "Resource". You can print them from there. Other than lecture notes, relevant materials like class schedule, course outline, reading materials, etc are available at different sub-folders of the same as well. Students are advised to check the folders at regular intervals.

ASSIGNMENTS AND CLASS ASSESSMENTS:

Assignments and Laboratory reports will be discussed during the class hours and must be submitted in hard copy (paper only) at the beginning of laboratory class on time on due date; electronic versions will NOT be accepted. Late submissions will be assigned a mark of zero. It is the student's responsibility to be present at the lab class regularly to achieve good marks for lab work as performances will be assessed every class.

EVALUATION:	(Tentative Marks)
Class attendance	10%
Assignments	10%
Lab report folder	10%
Lab experiments	15%
Midterm Exam	25%
Final Exam	30%

Note:

- Class attendance must be more than **75%** to participate in **Final Examination**.
- A student must pass the final examination and complete the project work to pass the course.
- No special permissions will be granted enabling a student to retain assignment or quiz marks from previous years.

EXAM POLICY:

No Make-up lab or Mid-term/Final exam will be arranged. If needed, Class or exam might be rescheduled due to unavoidable circumstances and prior notice will be given.

EXAM NOTICE:

Prior announcements for the exam will be made in the class, except for a sudden quiz. For lab reports and assignments, **No excuse** will be granted simply because someone was absent at previous class/lab.

GRADING POLICY:

NSU grading policy will be followed

CODE OF CONDUCT:

- Students are expected to arrive at class on time. RFID Attendance will be given if a student enters the classroom **within 10 minutes of class start because after that class room will be locked.** Therefore no attendance will be given.
- It is highly requested to maintain **discipline** in the class and to conduct in a professional and respectful manner.
- Please **turn off your cell phone** before coming to a class, tutorial, quiz or exam. Electronic devices (Cell phone, Laptops, Tabs etc. are not allowed in the class or exam hall.)
- **Cheating and Plagiarism** will be considered as a serious **crime**.
- Students are responsible for **regularly checking their email and notices** posted outside the Civil and Environmental Engineering Department Office and also the CHE 120 NOTICE subfolder in Resource.

On the premises of the University or at a University-sponsored program, students must abide by the Student Code of Conduct: <http://www.northsouth.edu/student-code-of-conduct.html>

Lecture Schedule:

* One Day = 3 hours, Total 10 days

Day	Outcome/ Material Covered	Reference Reading	Activity
Day-1	Laboratory Introduction, Lab techniques, instrumentation and protocol	Handout	Lecture, Laboratory class
Day-2	Chemical safety	Handout	Lecture, Laboratory class
Day-3	Math techniques and Graphing	Handout	Lecture, Laboratory class
Day 4	Acid base titration	Handout	Lecture, Laboratory class
Day-5	LAB MIDTERM EXAM		
Day-6	Measurement of chemical parameters of water (pH measurements, Temperature, Dissolved oxygen, Total dissolved solids)	Handout	Lecture, Laboratory class
Day-7	Chemical reactions, limiting reagents solution, colloids and suspension	Handout	Lecture, Laboratory class,
Day-8	Introduction to analytical chemistry	Handout	Lecture, Laboratory class
Day-9	Analytical chemistry	Handout	Lecture, Laboratory class
Day-10	LAB FINAL EXAM		