University of the Sunshine Coast
Queensland, Australia

Course outline

Code: CHM210
Title: Inorganic Chemistry

Faculty of: Science, Health, Education and Engineering
Teaching Session: Semester 2
Year: 2017
Course Coordinator: Professor David Young Email: dyoung1@usc.edu.au
Course Moderator: Dr Kerry Rutter Email: krutter@usc.edu.au

1. What is this course about?

1.1 Course description

Inorganic chemistry explores the diversity of the periodic table and the applications of its elements from power generation, to new materials for lighting and metal-based drugs. In this course you will learn about the chemistry of each type of element – Transition Metal, Main Group Metal, Lanthanide, Actinide and Non-metal and how they influence everyday life. You will investigate redox reactions theoretically by balancing equations and practically by constructing an electrochemical cell.

1.2 Course content

Inorganic chemistry including acid a systematic investigation of non-metals, Transition Metals, Main Group Metals, Lanthanides and Actinides.

2. Unit value

12 units

3. How does this course contribute to my learning?

Specific Learning Outcomes On successful completion of this course you should be able to:	Assessment Tasks You will be assessed on the learning outcome in task/s:	Graduate Qualities Completing these tasks successfully will contribute to you becoming:
Analyse inorganic chemistry information	1. Laboratory reports; 2. Literature Assignment; 3. Practical exam	Creative and critical thinkers.
Demonstrate and apply knowledge of inorganic chemistry	3. Practical exam 4. Final exam	Knowledgeable.
Communicate in scientific writing	1. Laboratory reports; 2. Literature Assignment	Empowered. Engaged.

4. Am I eligible to enrol in this course?

*Refer to the **Undergraduate Coursework Programs and Awards - Academic Policy** for definitions of "pre-requisites, co-requisites and anti-requisites"*

4.1 Enrolment restrictions

Not Applicable

4.2 Pre-requisites

SCI105 Chemistry

4.3 Co-requisites

Nil

4.4 Anti-requisites

CHM212

4.5 Specific assumed prior knowledge and skills (optional)

Nil

5. How am I going to be assessed?

5.1 Grading scale

Standard – High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL)

5.2 Assessment tasks

Task No.	CHM210 Assessment Tasks	Individual or Group	Weighting %	What is the duration / length?	When should I submit?	Where should I submit it?
1	Four laboratory reports	Individual	30%	Up to 600 words	Weeks 4, 6, 8, 10	Safe Assign
2	Literature Assignment	Individual	10%	200 words with diagrams and references	Week 4	Safe Assign
[3	[Practical Examination	Individual	20%	2 hours	Week 12	[In class
4	Final exam	Individual	40%	2 hours (1500 words)	Central exam period	Exam venue
			100%			

Assessment Task 1: Laboratory reports

Goal:	Produce inorganic chemistry data in teams and compare this with the literature to write individual reports to demonstrate that you can analyse and communicate inorganic chemistry information
Product:	Up to 600 word written reports
Format:	Graduated reports. Earlier reports will be shorter in length. Later reports will include: Title, abstract, introduction, methods, results, discussion, conclusion, references- with focus on discussion of results.
Criteria	Analyse inorganic chemistry information. Communicate in scientific writing.

Generic skill assessed	**Skill assessment level**
Collaboration	Developing
Information literacy	Developing
Communication	Developing

Assessment Task 2: Literature Assignment

Goal:	Research the preparation of a transition metal complex from the primary chemical literature using SciFinder and major chemistry journals.
Product:	Up to 200 word assignment with diagrams and search history
Format:	Title, structure of compound, search history output from SciFinder, download of literature procedure, evaluation of suitability of procedure.
Criteria	Following instructions, searching and evaluating information.

Generic skill assessed	**Skill assessment level**
Applying technologies	Developing
Information literacy	Developing
Communication	Developing

Assessment Task 3: Practical Examination

Goal:	Demonstrate planning, time management, manipulation skills, accuracy of measurement, calculations and knowledge of chemistry in a laboratory setting
Product:	2 hours
Format:	Each student will complete an inorganic chemistry experiment in the time allowed and record their results, calculations, observations and conclusions.
Criteria	Planning, time management, manipulation skills, calculations and knowledge of chemistry in a laboratory setting

Generic skill assessed	**Skill assessment level**
Problem solving	Developing
Organization	Developing

Assessment Task 4: Final exam

Goal:	Demonstrate and apply knowledge of inorganic chemistry
Product:	2 hours (1500 words)
Format:	Short and extended answer, problem solving, calculations based on material from lectures, tutorials and laboratory activities.
Criteria	Demonstrate and apply knowledge of inorganic chemistry.

Generic skill assessed	**Skill assessment level**
Problem solving	Developing
Organisation	Developing

5.3 Additional assessment requirements

Blackboard

All students enrolled in this course will have access to course information on the Blackboard site. Students are strongly recommended to log onto the course site on a regular basis. All course announcements, course changes, posting of course materials and grades (via My Interim Results) will be accessed through Blackboard. It is the student's responsibility to ensure they have adequate internet access (either off campus or on-campus) in order to access Blackboard regularly and to complete required assessment tasks.

Safe Assign

In order to minimise incidents of plagiarism and collusion, this course may require that some of its assessment tasks are submitted electronically via Safe Assign. This software allows for text comparisons to be made between the students submitted assessment item and all other work that Safe Assign has access to. If required, details of how to submit via Safe Assign will be provided on the Blackboard site of the course.

Eligibility for Supplementary Assessment

A student's eligibility for supplementary assessment in a course is dependent of the following conditions applying:

a) The final mark is in the percentage range 47% to 49.4%
b) The course is graded using the Standard Grading scale
c) The student has not failed an assessment task in the course due to academic misconduct

5.4 Submission penalties

Late submission of assessment tasks will be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day
- 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.

To request an extension you must contact your course coordinator to negotiate an outcome.

6. How is the course offered?

6.1 Directed study hours

Lecture: 2 hours per week; Laboratory: 3 hours per fortnight; Tutorial: during lecture.

6.2 Teaching semester/session(s) offered

Sippy Downs: Semester 2

6.3 Course activities

Teaching Week / Module	What key concepts/content will I learn?	What activities will I engage in to learn the concepts/content?	
		Directed Study Activities	Independent Study Activities
1	How to search the chemical literature	Lecture, Tutorial	Literature Assignment
2	[Introducing the d-Block elements]	[Lecture, Tutorial]	[Brown Chapter 23]
3	[Coordination chemistry]	[Lecture, Tutorial,]	[Brown Chapter 23]
4	[Structure and Nomenclature]	[Lecture, Tutorial], Laboratory	[Brown Chapter 23]
5	[Complexes and Crystal Field Theory]	[Lecture, Tutorial,]	[Brown Chapter 23]
6	[Colour and magnetism]	[Lecture, Tutorial, Laboratory]	[Brown Chapter 23]
7	[Bio-inorganic chemistry]	[Lecture, Tutorial,]	[Brown Chapter 23, 24]
8	[The heavier Transition Metals and Main Group Metals]	[Lecture, Tutorial, Laboratory]	[Brown Chapter 23]
9	[The Lanthanides]	[Lecture, Tutorial,]	[Brown Chapter 23]
10	[The Actinides]	[Lecture, Tutorial, Laboratory]	[Brown Chapter 21, 23]
11	[Chemistry of the nonmetals	[Lecture, Tutorial, Laboratory	[Brown Chapter 22
12	Electrochemistry including electrochemical and electrolytic cells and batteries and corrosion	Lecture, Tutorial, Laboratory Practical Examination	Brown Chapter 20
13	Revision	Lecture, Tutorial,	Brown Chapters, 16, 17, 22, 23]

Please note that the course activities may be subject to variation.

7. What resources do I need to undertake this course?

7.1 Prescribed text(s)

Please note that you need to have regular access to the resource(s) listed below:

Author	Year	Title	Publisher
Brown, LeMay, Bursten, Murphy, Woodward & Stoltzfus	2014	Chemistry: The central science. 13th edition.	Pearson Education Inc.

7.2 Required and recommended readings

Lists of required and recommended readings may be found for this course on its Blackboard site. These materials/readings will assist you in preparing for tutorials and assignments, and will provide further information regarding particular aspects of your course.

7.3 Specific requirements

Laboratory coat, safety glasses, closed in footwear.

7.4 Risk management

The health and safety risk in this course may be rated moderate. It is your responsibility to familiarise yourself with the Health and Safety policies and procedures applicable within campus areas, specific to the course and relevant to the workshop, field site or organisation involved. You are also responsible for strictly following all controls instructed by the academic staff, course material or inductions. Risk assessments have been performed for each experiment and Material Safety Data Sheets are available at each laboratory session.

8. How can I obtain help with my studies?

In the first instance you should contact your tutor, then the Course Coordinator. Additional assistance is available to all students through Peer Advisors and Academic Skills Advisors. You can drop in or book an appointment. To book: Tel: +61 7 5430 2890 or Email: studentcentral@usc.edu.au

9. Links to relevant University policies and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

http://www.usc.edu.au/university/governance-and-executive/policies-and-procedures#academic-learning-and-teaching

10. General Enquiries

In person:

- **Sippy Downs** - Student Central, Ground Floor, Building C
- **USC SouthBank** - Student Central, Building B, Ground floor (level 1)
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **USC Fraser Coast -** Student Central, Building A

Tel: +61 7 5430 2890
Email: studentcentral@usc.edu.au