

Faculty	Natural Sciences		
Home Department	Chemistry		
Module Topic	Applied and Industrial Chemistry 3		
Generic Module Name	Chemistry 312		
Alpha-numeric Code	CHM312		
NQF Level	7		
NQF Credit Value	30		
Duration	Semester		
Proposed semester to be offered.	Second Semester		
Programmes in which the module will be offered	BSc (Chemical Sciences) (3220, 3019) BSc (Physical Science) (3233, 3120)		
Year level	2		
Main Outcomes	<p>On completion of this module the student should be able to:</p> <ul style="list-style-type: none"> • Use the principles, techniques, characteristics & applications of chemical processes and pharmaceutical industries and their products. • Demonstrate the nature and control of corrosion phenomena; as well as the role of electrochemistry chemical industries and in energy generation; electrochemical sensors and environmental electrochemistry. 		
Main Content	<ul style="list-style-type: none"> • Characteristics and types of chemical industries. • Basic principles of process design. • Sources and properties of organic and inorganic raw materials. • Industrial chemistry processes including cracking, desulphurization, distillation. • Fischer Tropsch process, hydrogenation, liquefaction, and syn gas systems. • Pharmaceutical industry; chloro-alkali process; fuel cells, batteries and capacitors; electrolysis; electroplating, electrocatalysis and electrosynthesis. • Kinetics and technology of corrosion of metals and its prevention. • Potentiometric sensors or ion selective electrodes; amperometric sensors; environmental electrochemistry. 		
Pre-requisite modules	CHM211 and CHM212		
Co-requisite modules	None		
Prohibited module Combination	None		
Breakdown of Learning Time	Hours	Time-table Requirement per week	Other teaching modes that does not require time-table
<i>Contact with lecturer / tutor:</i>	84	Lectures p.w.	5
<i>Assignments & tasks:</i>	60	Practicals p.w.	2
<i>Practicals:</i>	84	Tutorials p.w.	1
<i>Assessments</i>	12		
<i>Selfstudy</i>	60		
<i>Other: Tutorials</i>	0		
Total Learning Time	300		
Method of Student Assessment	Continuous Assessment (CA): 60% Final Assessment (FA): 40%		
Assessment Module type	Continuous and Final Assessment (CFA)		

