

Standard Institutionally Developed College: N/A

EDGE Compatible: No

Pre-requisites

CHEM 1211 - Chemistry I (201003)
CHEM 1211L - Chemistry Lab I (201203)
MATH 1101 - Mathematical Modeling (201003)
MATH 1111 - College Algebra (201003)

Co-requisites

CHEM 1212 - Chemistry II (201003)

Course Description

Selected laboratory exercises paralleling the topics in CHEM 1212. The laboratory exercises for this course include equilibrium theory, kinetics, thermodynamics, solution chemistry, acid-base theory, and nuclear chemistry.

Course Length

	Minutes	Contact Unit
Lecture:	0	
Lab 2:	0	
Lab 3:	2250	
Practicum/Internship:	0	
Clinical:	0	
Total:	2250	1
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Semester Credit Hours:		1

Competencies

Order	Description	Lecture	Lab2	Lab3	Practicum/Internship	Clinical	Total Minutes	Semester Credit Hrs
1	Laboratory Safety	0	0	60	0	0	60	0
2	Solution Chemistry	0	0	275	0	0	275	0
3	Thermodynamics	0	0	233	0	0	233	0
4	Kinetics	0	0	233	0	0	233	0
5	Equilibrium Theory	0	0	225	0	0	225	0
6	Acid-base Theory	0	0	275	0	0	275	0

Order	Description	Lecture	Lab2	Lab3	Practicum/ Internship	Clinical	Total Minutes	Semester Credit Hrs
7	Buffers and Titration Curves	0	0	233	0	0	233	0
8	Solubility Product Principle	0	0	233	0	0	233	0
9	Electrochemistry	0	0	233	0	0	233	0
10	Nuclear Chemistry	0	0	250	0	0	250	0
	Totals for Course CHEM 1212L - Chemistry Lab II (version 201203):	0	0	2250	0	0	2250	1

Learning Outcomes

Laboratory Safety

Order	Description	Learning Domain	Level of Learning
1	Discuss and apply laboratory exercises encompassing the appropriate practice of laboratory precautions and laboratory safety.	Cognitive	Comprehension

Solution Chemistry

Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing solution chemistry.	Cognitive	Synthesis

Thermodynamics

Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing thermodynamics.	Cognitive	Synthesis

Kinetics

Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing kinetics.	Cognitive	Synthesis

Equilibrium Theory

Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing equilibrium theory.	Cognitive	Synthesis

Acid-base Theory

Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing acid-base theory.	Cognitive	Synthesis

Buffers and Titration Curves

Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing buffers and titration curves.	Cognitive	Synthesis

Solubility Product Principle

Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing solubility product principle.	Cognitive	Synthesis
Electrochemistry			
Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing electrochemistry.	Cognitive	Synthesis
Nuclear Chemistry			
Order	Description	Learning Domain	Level of Learning
1	Perform and apply laboratory exercises encompassing nuclear chemistry.	Cognitive	Synthesis

References

Order	Reference Type	Description
1	Book with Author(s) Listed	Beran, J.. (2009). Laboratory manual for principles of general chemistry. (8th). New York, NY: John Wiley & Sons.