



## TABLE OF SPECIFICATIONS

Chem 140 – Quantitative Inorganic Analysis  
1<sup>st</sup> Semester AY 2021 -2022

Examination: \_\_\_Midterm XX Final

Date of Examination: December 15, 2021


Content	No. of Meetings	Course Outcome/ Learning Outcome (CO/LO)	%	Taxonomy of Objectives						Total Items
				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	
				___%	___%	___%	___%	___%	___%	
Ionic strength of solutions	2	CO 4 / LO 6.1-6.2	14.9	4.5	4.5	3.0	3.0			10
Gravimetric method of analysis	2	CO 2 / LO 7.1-7.2	19.4	13.9	6.4			1.0		14
Volumetric method of analysis	2	CO 4 / LO 7.1-7.2	19.4	10.0	7.0			0.5		12
Optical method of analysis	2	CO 3 / LO 8.1-8.2	46.3	23.8	20.9				1.5	31
<b>Total</b>	<b>8</b>		<b>100%</b>	<b>52.2</b>	<b>38.8</b>	<b>3.0</b>	<b>3.0</b>	<b>1.5</b>	<b>1.5</b>	<b>67</b>
<b>Item Arrangement</b>				II: 1-9 III: 1-26	II:10-21 III: 27-40	I:1-2, II:4	I:3-4 II:1,5	I: 5 II:2,7	I: 6 II:3,6	

**Type/s of Test:** (example: Multiple Choice, Alternative Response, Essay, Fill in the blanks, etc)

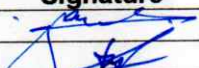
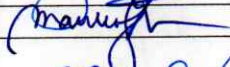

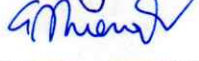
Test I Problem Solving (PS)


Test II Multiple Choice (MC)

Test III True or False (T/F)

Prepared by:	Name of Course Instructor /Professor	Signature	Date Signed
	FELIX M. SALAS		22 Nov. 2021

**Department Instructional Materials Review Committee:**

Committee	Name	Signature	Date Signed
Member:	JACOB GLENN F. JANSALIN		11/24/21
Member:	MERVIN JUNE B. GASATAN		11/25/21
Chairperson	MARIA ROBELYN A. INSIK		12/6/21
Department Head:	ELIZABETH S. QUEVEDO		11/29/21

	Name	Signature	Date Signed
Verified by:	MA. THERESA P. LORETO Dean, CAS		12/7/2021
Validated by:	NANCY D. ABUNDA Head, IMD		

*Note: A copy of the test paper with answer key shall be attached to the TOS.*

*Distribution of copies: OIMD, College, Department, Faculty, and Office of the Director for Quality Assurance*





## TABLE OF SPECIFICATIONS

Chem 124 – Molecular Spectroscopy  
1<sup>st</sup> Semester AY 2021 -2022

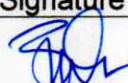
Examination: \_\_\_Midterm XX Final

Date of Examination: December 15, 2021

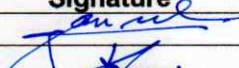



Content	No. of Meetings	Course Outcome/ Learning Outcome (CO/LO)	%	Taxonomy of Objectives						Total Items
				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	
				___%	___%	___%	___%	___%	___%	
Proton-NMR Spectroscopy	2	CO 3 / LO 5.1-5.2	25.0	7.5	7.5	3.0	3.0	1.0	3.0	20
Carbon-NMR Spectroscopy	2	CO 3 / LO 6.1-6.2	18.8	7.4	6.4	2.0	2.0	1.0		15
Mass Spectrometry	2	CO 4 / LO 7.1-7.2	25.0	10.0	7.0	2.5	3.0	0.5	2.0	20
Combined Spectroscopy	2	CO 4 / LO 8.1-8.2	31.2	10.0	5.1	6.0	6.0	2.0	2.1	25
<b>Total</b>	<b>8</b>		<b>100%</b>	<b>34.9</b>	<b>26.0</b>	<b>13.5</b>	<b>14.0</b>	<b>4.5</b>	<b>7.1</b>	<b>80</b>
<b>Item Arrangement</b>				I:1-20 III:1-14	I:21-30 III:15-26	II:1-2, IV:2	II:3-4 III:27-32 IV:1,4	II: 5 III:33-40	II: 6 IV:3	

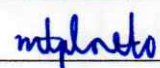
**Types of Test:** (example: Multiple Choice, Alternative Response, Essay, Fill in the blanks, etc)

- Test I True or False (T/F)
- Test II Problem Solving (PS)
- Test III Multiple Choice (MC)
- Test IV Essay

Prepared by:	Name of Course Instructor /Professor	Signature	Date Signed
	FELIX M. SALAS		22 Nov. 2021

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## TABLE OF SPECIFICATIONS

Chem 115 – Principles of Chemistry  
1<sup>st</sup> Semester AY 2021 -2022


Examination: \_\_Midterm XX Final

Date of Examination: December 16, 2021

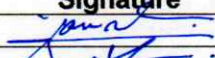


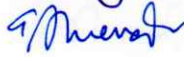
Content	No. of Meetings	Course Outcome/ Learning Outcome (CO/LO)	%	Taxonomy of Objectives						Total Items
				Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	
				___%	___%	___%	___%	___%	___%	
Chemical Bonds & Bonding Theories	2	CO 4 / LO 5.1-5.2	19.0	4.5	4.5	3.0	3.0		4.0	15
States of Matter & Gas Laws	2	CO 2 / LO 6.1-6.2	25.3	13.9	6.4	2.0	2.0	1.0		20
Solutions, Reactions & Chemical Equilibria	2	CO 4 / LO 7.1-7.2	25.3	10.0	7.0	2.8	3.0	0.5	2.0	20
Chemical Kinetics	2	CO 3 / LO 8.1-8.2	30.4	23.8	2.1	1.0	1.0	1.0	1.5	24
<b>Total</b>	<b>8</b>		<b>100%</b>	<b>52.2</b>	<b>20.0</b>	<b>8.8</b>	<b>9.0</b>	<b>2.5</b>	<b>7.5</b>	<b>79</b>
<b>Item Arrangement</b>				I:1-20 III:1-14	I:21-30 III:15-26	II:1-2, IV:2	II:3-4 III:27-32 IV:1	II: 5 III:33-40	II: 6 IV:3	


**Types of Test:** (example: Multiple Choice, Alternative Response, Essay, Fill in the blanks, etc)

- Test I True or False (T/F)
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