UNIVERSIDAD DE LA RIOJA

PHYSICAL CHEMISTRY III
2016-2017

Bachelor Degree:	Chemistry		702G
Course title:	Physical Chemistry III		522
Year/Semester:	Second Semeter	ECTS Credits:	6

DEPARTMENT

Chemistry					
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ENGLISH-FRIENDLY FACULTY

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CONTENTS

UNIT 1.- Surface tension and interfaces: Interfaces Thermodynamics, surface tension, adsorption processes, interfaces characterization techniques

UNIT 2.- Adsorption isotherms: gas-solid isotherms

UNIT 3.- Transport properties: Gas kinetics theory, transport properties in gas and solutions: diffusion, viscosity, electric, and thermal conductivities; ionic transport.

UNIT 4.- Electrical interfaces: Basic concepts, electrical interface thermodynamics, electrocapilarity, double layer models.

UNIT 5: Electrokinetics phenomena: Electroosmosis, electrophoresis. flux potential, sedimentation potential, electrodic reaction kinetics.

UNIT 6.- Macromolecules: Polimerization kinetics, characterization of polymers.

UNIT 7.- Colloids: Characterization of colloidal dispersions, colloidal stability, associate colloids.

Laboratory sessions include electrochemistry transport properties, isotherms, and associate colloids.

Computer laboratory sessions include electrical interfaces and electrokinetics phenomena simulations

REFERENCES

Title
Atkins' Physical Chemistry.
Basic principles of colloid Science.
Interfacial Science: an introduction.
Modern electrochemistry.
Foundations of colloid Science.
Introduction to modern colloid Science.
Physical Chemistry for the life sciences.
Student's solutions manual to accompany Atkins' physical chemistry.

The colloidal domain: where Physics, Chemistry, Biology, and Technology meet.

EVALUATION SYSTEM

Written exam – 70%

Oral presentation of laboratory session – 10%

Laboratory reports – 16%

Attitude evaluation in laboratory – 4%