Code: **QF853**

Name: **Reologia Sistemas Coloidais**

Name in English: **Rheology of Colloidal Systems**

Name in Spanish: **Reología de Sistemas Coloidales**

Subject Type: **Weekly**

Approval Type: **Grade and Attendance**

Characteristic: **Regular**

Frequency: **75%**

Period Type / Offering Period: **Semester / All periods**

Requires Final Exam: **Yes**

Vectors

T	L	P	O	PE	OE	SL	WEEKS	CREDITS
2	**-**	**-**	**-**	**-**	**-**	**2**	**15**	**2**

Occurrence on curriculum:

Pre requirement:

Summary: **Introduction to rheology. Definitions of fundamental rheological parameters such as deformation, stress, and shear rate.**

Program:

Colloidal systems: polymeric, dispersions, surfactant-based; complementary techniques used for characterization of colloidal systems (static and dynamic light scattering, neutron scattering; zeta potential); fundamentals of rheology; the linear regime; the non-linear regime; rheology of: polymeric solutions, dispersions, surfactant aggregates, organogels, liquid crystals.

Basic Bibliography

1) GOODWIN, J.W. AND HUGHES, R.W. **Rheology for Chemistry**. 2 Ed. RSC, 2008. 277 p.
2) MACOSKO, C.W. **Rheology - Principles, Measurements, and Applications**. 1 Ed. Wiley-VCH, 1994. 578 p.
3) LARSON, R.G. **The Structure and Rheology of Complex Fluids**. Oxford University Press, 1999. 682 p.

Supplementary Bibliography

1) LEVINE, I. N. **Physical Chemistry**, Mcgraw-Hill College, 1988.
2) COSGROVE, T. (EDITOR) **Colloid Science: Principles, Methods and Applications.** John Wiley & Sons Ltda. 2010.
3) CANEVAROLO JR., S.V. **Ciência dos Polímeros – Um texto básico para tecnólogos e engenheiros**, 3ª Ed. São Paulo: Artliber Editora, 2010. 280p.
4) BRETAS, R.E.S.; D´AVILA, M.A. **Reologia de polímeros fundidos.** 2ª. Ed. São Carlos: EuUFSCAR, 2010. 257p.
5) HAN, C.D. **Rheology and Processing of Polymeric Materials - Polymer Processing**, Oxford: Oxford University Press, vol. 2, 2007.