CENTRO UNIVERSITÁRIO
DEPARTAMENTO: **QUÍMICA**

**QUI 2695** Tópicos Especiais de Físico-Química (Projects in Chemistry of Cosmetics for Science Communication)

Tipo de Disciplina: Eletiva

Carga Horária Total: 30 horas Créditos: 2

Pré-requisito: Co-requisite = Physical Chemistry of Polymers and Surfactants applied to Cosmetics

**OBJETIVOS**

This course is an integrated introduction to chemistry of cosmetics and is intended for students simultaneously coursing “Physical Chemistry of Polymers and Surfactants applied to Cosmetics”. This course intends to guide the students to explore the relations that chemistry have among the general public, by using the area of cosmetics as a motivation. For that, the first part will be a laboratory course where students will carry out chemistry research in cosmetics. Projects will be drawn from the methodologies taught on the “Physical Chemistry of Polymers and Surfactants applied to Cosmetics” course. During the second part, the course is intended to help students develop skills to design and implement projects about cosmetics to communicate concepts of chemistry to laypeople.

**EMENTA**

Science communication to the general public will be presented as a responsibility of scientists and the students will discuss the best methodologies and train the ability to communicate scientific concepts to a layperson audience. It is an approach to the task of exploring linkages which science, technology and innovation have among the general public, by using the interest on the area of cosmetics as a motivation.

The course can be offered either in English or in Portuguese according to the audience.

**PROGRAMA**

Lab practices for characterization of physicochemical properties of surfactants: determination of surface tension; determination critical micellar concentration; formation and stability of foams; formation and stability of emulsions; formation of liquid crystals.

Lab practices for characterization of physicochemical properties of polymers: viscosimetry and rheology

Characterization of physicochemical properties in different cosmetic formulations

Projects in formulations

Projects in communications of chemistry to laypeople audience

**AVALIAÇÃO**

Reports and final project

**BIBLIOGRAFIA PRINCIPAL**


- Holmber, K.; Jönsson, B.; Kronberg, B.; Lindman, B.; Surfactants and Polymers in Aqueous Solutions, West Sussex, John Wiley & Sons, Ltd. 2nd edtion, 2002.

- Tadros, T.F.; Colloids in Cosmetics and Personal Care (Volume 4 in Colloids and Interface Science Series), Weinheim, Willey-VCH Verlag GmbH & Co., 2007
- Williams, D.F.; Schmitt, W.H.; Chemistry and Technology of the Cosmetics and Toiletries Industry, London, Blackie Academic & Professional, 2nd edtion, 1996.


**BIBLIOGRAFIA COMPLEMENTAR**


- Teraoka, I.; Polymer Solutions – An Introduction to Physical Properties, New York, John Wiley & Sons, Inc., 2002.
- Tadros, T.F.; Applied Surfactants – Principles and Applications, Weinheim, Willey-VCH Verlag GmbH & Co., 2005
- Sakamoto, K.; Lochhead, R.Y.; Maibach, H.I.; Yamashita, Y.; Cosmetic Science and Technology: Theoretical Principles and Applicatoins, Amsterdam, Elsevier, 2017.
- Myers, D.; Surfactant science and technology, New Jersey, John Wiley & Sons, Inc., 2006