Code: QA481

Name: Métodos de Separação

Name in English: Separation Methods

Name in Spanish: Métodos de Separación

Subject type: Weekly

Approval Type: Grade and frequency

Characteristic: Regular

Frequency: 75%

Period Type / Offering period: Semi-annual / Every period

Requires Final Exam: Yes

Vectors

T	L	P	O	PE	OE	SL	WEEKS	CREDITS
2	**0**	**0**	**0**	**0**	**0**	**2**	**15**	**2**

Occurrence on curriculum: 05, 50

Pre requirement: QA282

Summary:
Introduction to separation methods. Thin layer Chromatography and column chromatography. Gas chromatography. High performance liquid chromatography. Ultra high performance liquid chromatography. Capillary electrophoresis.

Program:
Thin layer chromatography. Column chromatography. Basic principles of chromatography. Chromatographic parameters. Separation mechanisms in chromatography: adsorption, partition, ionic exchange, molecular exclusion and bioaffinity. Gas chromatography: stationary phases; mobile phase and instrumentation. Gas chromatography detectors. High performance and ultra high performance liquid chromatography: stationary phases; mobile phase and instrumentation. Liquid chromatography detectors. Capillary electrophoresis: electroosmotic flow, electrophoretic mobility, separation modes, and instrumentation. Mass spectrometry: hyphenation to separation methods. Analytical applications of separation methods.

Basic Bibliography

1) SKOOG, D.A.; WEST, D.M.; HOLLER, F.J.; CROUCH, S.R. **Fundamentos de Química Analítica**. tradução da 9. Ed. São Paulo: Cengage Learning, 2015. 950 p.
2) HARRIS, D.C. **Análise Química Quantitativa**. 9. Ed. Rio de Janeiro: LTC, 2017. 774 p.
3) SKOOG, D.A.; HOLLER, F.J.; NIEMAN, T.A. **Princípios de Análise Instrumental**. 6. Ed. Porto Alegre: Bookman, 2009. 1055 p.

Supplementary Bibliography

1) COLLINS, C.H.; BRAGA, G.L.; BONATO, P.S. **Fundamentos de Cromatografia**. Campinas: Editora da Unicamp, 2006. 453 p.
2) MILLER, J. M. **Chromatography: Concepts and Contrasts**. 2. Ed. Hoboken: Wiley, 2009. E-book.
3) LANDERS, J. **Handbook of Capillary and Microchip Electrophoresis and Associated Microtechniques**. 3. Ed. Boca Raton: CRC Press, 2008. 1592 p.
4) CHRISTIAN, G.D. **Analytical Chemistry**. 6. Ed. New York: Wiley, 2004. 828 p.
5) BAKER, D.L. **Capillary Electrophoresis**. New York: John Wiley & Sons, 1995. 244 p.