

Code: QA317								
Name: Química Analítica (Engenharia Química)								
Name in English: Analytical Chemistry (Chemical Engineering)								
Name in Spanish: Química Analítica (Ingeniería Química)								
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
4	0	0	0	0	0	4	15	4
Occurrence on curriculum: 09, 39								
Pre requirement: QG101 or QI242								
Summary: Introduction to chemical analysis. Chemical equilibria. Volumetry and gravimetry. Introduction to sample preparation methods and instrumental analysis: Spectrochemical, electrochemical, and separation methods. Statistics on analytical chemistry and expression of analytical results.								
Program: General aspects of qualitative and quantitative analysis. Statistics on analytical chemistry: significant figures, errors and error propagation, data treatment and evaluation, detection of gross errors, significance tests. Chemical equilibria (acid-base, precipitation, complex-formation, and oxidation-reduction). Introduction to volumetric methods of analysis. Introduction to analytical methodology. Introduction to sampling and sample preparation. Introduction to instrumental analysis. Introduction to spectrochemical methods. Introduction to electrochemical methods. Introduction to 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) BACCAN, N.; DE ANDRADE, J.C.; GODINHO, O.E.S.; BARONE, J.S. Química Analítica Quantitativa Elementar . 3. Ed. São Paulo: Edgard Blücher, 2001. 308 p.								
Supplementary Bibliography 1) SKOOG, D.A.; HOLLER, F.J.; NIEMAN, T.A. Princípios de Análise Instrumental , 5 a edição, Bookman, Porto Alegre, 2002. 2) DANZER, K. Analytical Chemistry: Theoretical and Metrological Fundamentals . Berlin: Springer, 2007. XXXII, 316. E-book 4) COLLINS, C.H.; BRAGA, G.L.; BONATO, P.S. Fundamentos de Cromatográficos , Editora da Unicamp, 2006. 5) BRETT, A.M.O.; BRETT, C.M.A., Electroquímica, Princípios, Métodos e Aplicações . Coimbra: Oxford University Press, 1996. 471 p.								