



PROGRAMS AND BIBLIOGRAPHY

Subject	
Code	Name
QA853	Chemical speciation

Vector
OF:S-5 T:002 P:000 L:000 O:000 D:000 HS:002 SL:002 C:002 AV:N EX:S FM:75%

Pre requirement
QA584

Summary
Speciation and fractionation applied to analytical chemistry

Program
Speciation and fractionation: definitions, concepts and applications. Factors influencing chemical speciation in environment: pH, oxi-reduction potential, organic matter, alkalinity, salinity, bacterial activity. Factors influencing chemical speciation in living organisms: bioavailability, metals function in organisms. Speciation analysis: sampling, storage and sample preparation techniques aiming chemical speciation. Analytical techniques for chemical speciation. Application of stable isotopes in chemical speciation.

Bibliography
1. Handbook of Elemental Speciation: Techniques and Methology, Rita Cornelis (Ed.), Wiley, 2003, 657p (ISBN: 0-471-49214-0). 2. Handbook of Elemental Speciation, II: Species in the Environment, Food, Medicine and Occupational Health, Rita Cornelis (Ed.), Wiley, 2005, 784 p. (ISBN: 0-470-85598-3). 3. Trends in Sample Preparation, Marco A.Z. Arruda (Ed.), Nova Science, 2006, 304p.

Evaluation criteria
For grading policy, see: Regimento Geral de Graduação, Seção I – Normas Gerais, Capítulo V – Da Avaliação do Aluno na Disciplina. Students are required to attend 75 % of the lectures. For further details, see: Regimento Geral de Graduação, capítulo VI, seção X, artigo 72.