



PROGRAMS AND BIBLIOGRAPHY

SUBJECT	
Code	Name
QF053	Laboratory of Applied Chemistry

Vector
OF:S-5 T:001 P:000 L:003 O:000 D:000 HS:004 SL:004 C:004 AV:N EX:S FM:75%

Pre Requirement	*EQ481/*EQ482
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Summary
Experiments in Applied Chemistry are developed at the pilot plant of the Institute of Chemistry, to illustrate relevant unitary operations for the Chemical Industry.

Program
I. Pilot plant and Polymer processing plant Definitions, types, security, instrumentation and scaling in pilot plants; pilot plant operation; development of experiments of: distillation and distillation control; milling; production of chemical products at the pilot scale (personal hygiene products, biodiesel, adhesives, etc); polymer processing (extrusion, injection, mechanical tests in injected products, etc.).
II. Chemical products Research and oral presentations on the production, costs, processes, new developments, etc., of chemical products used as inputs by the chemical industry.
III. Patents The concept of patents; use of patent data-bases, simulations using the patent databases.

Bibliography
Specific bibliography is used for each experiment, within which the following books are considered: 1 - McCabe, W.; Smith, J.; Harriot, P., "Unit Operations of Chemical Engineering", 7th edition, McGraw Hill Chemical Engineering Series, 2005. 2 - Treybal, R., "Mass Transfer Operations", McGraw Hill Chemical Engineering Series, 1981. 3 - Foust, A.S., "Princípios das Operações Unitárias", Livros Técnicos e Científicos Editora S.A., 1982. 4 - Coulson, J.M.; Richardson, I.F., "Chemical Engineering", 4 ^a . ed., v. 2, Butterworth, 1999. 5 - Chaves, A.P.; Peres, A.E.C., "Teoria e Prática de Tratamento de Minérios", v.3, Signus, 1999. 6 - Mano, E.B.; Mendes, L.C., "Introdução a Polímeros", 2nd ed., Editora Edgard, 1999. 7 - Stevens, M.J.; Covas, J.A., "Extruder Principles and Operation", 2nd ed., Chapman & Hall, 1995. 8 - Billmeyer Jr., F.W., "Text Book of Polymer Science", 3rd ed., John Wiley & Sons, Inc, 1984. 9 - Garcia, A.; Spim, J.A.; Santos, C.A., "Ensaio dos Materiais", Livros Técnicos e Científicos Editora S.A, 2000. 10 - Canevarolo Jr., S.V. - "Ciência dos Polímeros: Um Texto Básico para Tecnólogos e

Engenheiros”, Editora Artliber, 2002.

11 - Mainrich, S. - “Processamento de termoplásticos: rosca única, extrusão e matrizes, injeção e moldes”, Editora Artliber, 2005.

12 - Callister, Jr. W. D., Materials Science and Engineering, 3rd edition, John Wiley & Sons, Inc., 1994.

Evaluation Criteria

Critérios de avaliação definidos pelo Professor, com base no disposto na Seção I – Normas Gerais, Capítulo V – Da Avaliação do Aluno na Disciplina, do Regimento Geral de Graduação.

Frequência: 75 % (* O abono de faltas será considerado dentro do previsto no capítulo VI, seção X, artigo 72 do Regimento Geral de Graduação)