

Program: Chemistry (15025012071P6)

Course: MICROBIAL BIOTECHNOLOGY

Code: PPGQU0045

Workload: 60 hours

Credits: 04

Syllabus:

Introduction to Microbiology: Phylogeny of living organisms, microbial morphology, microbial control; Microorganisms in traditional and modern biotechnology processes: Food Industry, pharmaceutical industry, agroindustry, chemical industry, environmental preservation, energy production; Stages of a biotechnology process; Fermentation methods and systems; Microorganisms and nanotechnology.

Bibliography:

MADIGAN, M. T.; MARTINKO, J. M.; BENDER, K.; BUCKLEY, D.; STAHL, D. Brock Biology of Microorganisms, 14th Edition, Prentice Hall, USA, 2015.

TORTORA, G.; FUNKE, B. R.; CASE, C. L. Microbiology, 8th Edition, Artmed, Porto Alegre, RS, 2005.

GLAZER, A. N.; NIKAIIDO, H. Microbial Biotechnology - Fundamentals of Applied Microbiology, 2nd Edition, Cambridge University Press, 2007.

SINGH, U. S.; KAPOOR, K. Microbial Biotechnology, Oxford Book Company, India, 2010.

WAITES, M. J.; MORGAN, N. L.; ROCKEY, J. S.; HIGTON, G. Industrial Microbiology: An Introduction, 1st Edition, Blackwell Science, 2001.

Articles related to the PPGQ research lines published in QUALIS-indexed journals.