

Centro de Ciências Biológicas
Departamento de Bioquímica
Programa de Pós-Graduação em Bioquímica (PBQ)

Curso:	PROGRAMA DE PÓS-GRADUAÇÃO EM BIOQUÍMICA		
Departamento:	Bioquímica - DBQ		
Centro:	Ciências Biológicas - CCB		
COMPONENTE CURRICULAR			
Nome da Disciplina: Advanced enzyme kinetics		Código: PBQ-12	
Tipo: Eletiva			
Carga Horária Teórica: 30 h	Carga Horária Prática: 0h	Carga Horária Total: 30 h	
Nº de créditos teóricos: 2	Nº de créditos práticos: 0	Nº total de créditos: 2	
Nível: Mestrado e doutorado			
Ano de Implantação: 2019			
Idioma em que a disciplina será oferecida: Inglês			
1. EMENTA			
Steady-state enzyme kinetics of uni- and multi-reactant and non-hyperbolic enzymes. Multi-enzyme systems kinetics and control.			
2. OBJETIVOS			
To use English as a tool to teach enzyme kinetics. To familiarize the graduate student with the most common English concepts in enzyme kinetics.			
3. CONTEÚDO PROGRAMÁTICO			
<ol style="list-style-type: none"> 1. Basic steady-state enzyme kinetics: derivation of rate equations, general models of enzyme inhibition, reversible enzyme-catalyzed reactions, how to fit equations to data, resolution of exercises 2. Enzyme reaction sequences: multi-reactant enzymic reactions, analysis of multi-reactant enzyme kinetics, prediction of reaction sequence, effect of pH, enzyme-catalyzed isotopic exchange, resolution of exercises 3. Non-Hyperbolic enzyme kinetics: causes, analysis, subunit interactions, resolution of exercises. 4. Control of multi-enzyme systems: linear systems, branched systems, kinetics and non-equilibrium thermodynamics, resolution of exercises. 			
4. REFERÊNCIAS			
<ul style="list-style-type: none"> • Bisswanger H. Enzyme kinetics. Principles and methods. Second edition. Weinheim: Wiley Wiley-VCH Verlag, 2008. • Cornish-Boden A. Fundamentals of enzyme kinetics. Fourth edition. Weinheim: Wiley-Blackwell, 2012. • Ioannides C. Enzyme systems that metabolize drugs and other xenobiotics. Chichester: John Wiley & Sons, 2001. • Marangoni AO. Enzyme kinetics: A modern approach. Hoboken: John Wiley 			

& Sons, Inc., 2003.

- Plowman KM. **Enzyme kinetics**. New York: McGraw-Hill, 1972.
- Schulz AR. **Enzyme kinetics from diastase to multi-enzyme systems**. Cambridge: Cambridge University Press, 1994.

5. PROFESSOR RESPONSÁVEL (PROFESSORES RESPONSÁVEIS)

Prof. Adelar Bracht

APROVAÇÃO DO CONSELHO ACADÊMICO