



UNIVERSIDADE FEDERAL DO PARÁ  
INSTITUTO DE GEOCIÊNCIAS  
PROGRAMA DE PÓS-GRADUAÇÃO EM GEOLOGIA E GEOQUÍMICA

**PPGGG0052: MINERALOGIA AMBIENTAL**

Carga Horária Total: 60h

Créditos: 03

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**SÚMULA:** A mineralogia ambiental é uma das mais excitantes áreas do conhecimento científico com rápido desenvolvimento em áreas sociais e economicamente relevantes e das pesquisas em ciência moderna. Mineralogia ambiental é o estudo de minerais e fases relacionadas com o propósito de entender e estimar sua influencia na mobilização e fixação de contaminantes orgânicos e inorgânicos na superfície terrestre. Estuda sistemas considerados essenciais: aqueles sistemas com minerais que constituem os ambientes chave e os sistemas com minerais afetados pela atividade humana. A mineralogia ambiental é um novo campo, e como tal ainda não tem fronteiras estabelecidas, nem corpo de literatura estabelecido e aceito. Mesmo assim há muitos livros, monografias e periódicos que são já parte deste novo campo.

**PROGRAMA**

1. Introdução

Natureza e campo da mineralogia ambiental

Métodos analíticos, experimentais e computacionais na mineralogia ambiental.

2. Mineralogia dos sistemas ambientais-chaves

Os minerais e o desenvolvimento dos solos

Mineralogia dos sedimentos modernos e seu arcabouço geoquímico

Controle microbiológico na mineralogia do meio ambiente

Partículas de aerossóis na troposfera: aspectos mineralógicos

3. Mineralogia e Problemas ambientais específicos

Mineralogia de rejeitos de minas e estratégias para remediação

Evolução mineralógica dos rejeitos e resíduos

Aplicabilidade dos minerais para o controle enchimento de terrenos e tanqueamento

Mineralogia em rejeitos nucleares de longa residência (materiais radioativos - radioatividade natural)

Mineralogia e herança cultural

Minerais potencialmente danosos em poeiras (minerais fibrosos; silicatos em camadas; grupo da sílica; grupo das zeolitas; poeiras naturais).

Minerais e saúde humana (dentes, ossos; artérias e tumores; juntas e tendões; pedras Kidney e pancreáticas)

Biominaerais e geominaerais

Nanopartículas vs. Nanominaerais.

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 Clays and Clay Minerals  
 Environmental Science and Technology  
 European Journal of Mineralogy  
 Geochimica et Cosmochimica Acta  
 Journal of Colloid and Interface Science  
 Mineralogical Magazine

### **WEB – INFORMATIONS:**

<http://ist-socrates.berkeley.edu/~eps2/>  
<http://webmineral.com>  
[www.earth.monash.edu.au](http://www.earth.monash.edu.au)  
[www.eas.purdue.edu](http://www.eas.purdue.edu)  
[www.eos.ubc.ca](http://www.eos.ubc.ca)  
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