

**Graduate Studies in Biogeochemistry are highly interdisciplinary. Virginia Tech offers a wide range of courses that give depth and breadth to this field. This partial listing summarizes some of the courses that students in our group have found interesting and useful:**

**Geosciences (GEOS)**

GEOS 4324	Plant Evolution
GEOS 4554	Geologic Aspects of Nuclear and Toxic Waste Disposal
GEOS 4634	Environmental Geochemistry
GEOS 4664	Organic Geochemistry
GEOS 4804	Groundwater Hydrology
GEOS 4984-5984	Special Study (Fortran in Geosciences)
GEOS 5004	Analytical Geosciences
GEOS 5634	Paleoecology
GEOS 5504	Crystallography and Crystal Chemistry
GEOS 5524	X-Ray Crystallography
GEOS 5525, 5526	Electron Microprobe
GEOS 5754	Fluids in the Earth's Crust
GEOS 5804	Quantitative Hydrogeology
GEOS 5814/CEE 5354	Numerical Modeling of Groundwater Flow & Transport
GEOS 5984	Geochemical Kinetics
GEOS 6204	Advanced Topics in Sedimentology
GEOS 6304	Advanced Topics in Paleontology
GEOS 6504	Advanced Topics in Mineralogy
GEOS 6604	Advanced Topics in Geochemistry Biomineralization Geochemical Thermodynamics Mineral Surface Geochemistry
GEOS 6804	Advanced Topics in Hydrogeology Biogeochemistry of Organic Contaminants

**Biochemistry (BCHM)**

BCHM 4115	General Biochemistry I
BCHM 4116	General Biochemistry II
BCHM 5304	Enzyme Kinetics and Reaction Mechanisms
BCHM 5984	Biochemistry and Molecular Biology of Anaerobic Organisms

**Biology (BIOL)**

BIOL 2104	Cell and Molecular Biology
BIOL 4154	Microbiology of Aquatic Systems
BIOL 4774	Molecular Biology Laboratory

BIOL 4984	Microbial Physiology and Genetics Laboratory
BIOL 5044	Aquatic Ecotoxicology
BIOL 5604	Physiology of Microorganisms
BIO/CEE/CSES 4984	Environmental Microbiology

### **Chemistry (CHEM)**

CHEM 3616	Physical Chemistry
CHEM 4404	Physical Inorganic Chemistry
CHEM 4616	Physical Chemistry for the Life Sciences
CHEM 5404	Advanced Inorganic Chemistry
CHEM 5614	Advanced Physical Chemistry
CHEM 5644	Colloid and Surface Chemistry
CHEM 6634	Quantum Chemistry & Spectroscopy
CHEM 6654	Statistical Mechanics

### **Civil and Environmental Engineering (CEE)**

CEE 5104	Environmental Chemistry
CEE 5124	Fundamentals of Environmental Toxicology
CEE 5184	Techniques for Environmental Analysis
CEE 5354	Numerical Modeling of Groundwater
CEE 5374	Dynamics of Groundwater
CEE 5704	Environmental Chemistry Lab
CEE 5714	Surface Water Quality Modeling
CEE 5724	Environmental Monitoring and Sampling
CEE 5774	Hazardous Waste Management
CEE 5794	Env Eng Principles
CEE 5984	Environmental Organic Chemistry (Vikesland)
CEE 6104	Advanced Environmental Chemistry

### **Crop and Soil Environmental Science (CSES)**

CSES 4114	Soil Physics
CSES 4594	Soil and Groundwater Pollution
CSES 4734	Environmental Soil Chemistry
CSES 5214	Soil-Plant Relationships
CSES 5594	Modeling Subsurface and Chemical Waste Transport
CSES 5634	Soil Chemistry
CSES 5694	Soil Biochemistry
CSES 5734	Clay Mineralogy
CSES 6634	Soil Physical And Colloidal Chemistry

**Materials Science and Engineering (MSE)**

MSE 5984                      Quantitative Characterization of Materials

**Statistics (STAT)**

STAT 5615                      Statistics in Research I

STAT 5616                      Statistics in Research II