

University of Montana

ScholarWorks at University of Montana

University of Montana Course Syllabi

Open Educational Resources (OER)

1-2003

BIOC 486.01: Biochemistry

Michele A. McGuirl

University of Montana - Missoula, michele.mcguirl@umontana.edu

Follow this and additional works at: <https://scholarworks.umt.edu/syllabi>

Let us know how access to this document benefits you.

Recommended Citation

McGuirl, Michele A., "BIOC 486.01: Biochemistry" (2003). *University of Montana Course Syllabi*. 1180.
<https://scholarworks.umt.edu/syllabi/1180>

This Syllabus is brought to you for free and open access by the Open Educational Resources (OER) at ScholarWorks at University of Montana. It has been accepted for inclusion in University of Montana Course Syllabi by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

Biochemistry 486

Putting 4 Years of Theory to Work!

Learn molecular biology and biochemical techniques!

Lab and lecture are integrated into a semester-long research project.

- § Site-directed mutagenesis
- § Recombinant protein expression in bacteria
- § PCR techniques
- § Protein purification
- § Protein characterization
- § SDS-PolyAcrylamide Gel Electrophoresis
- § UV/Vis Spectroscopy
- § Electrochemistry
- § Electron Paramagnetic Resonance

Enrollment is limited, so sign up soon!

BIOC 486

CRN 33040

Currently 2 credits - might be 3 by 2003

McGuirl

TR

9:30A-12:30P

HS 406

The main goal is to understand how mutations in amino acid sequence may affect the biochemical properties of a protein. Each student will prepare a different mutant of azurin, a blue copper protein that is involved in electron transfer during bacterial respiration. The mutants will be purified and characterized by a variety of spectroscopic techniques. At the end of the course, students will compare notes and write a summary of the effects of the various mutations on the biochemical properties of the protein. Students will gain experience in gene cloning and recombinant protein expression in bacteria, site-directed mutagenesis, PCR techniques, protein purification, and protein characterization, including several types of spectroscopy. They will also be given at least one journal article that we will discuss in class.