

BIOORGANIC CHEMISTRY - SPRING 2016
PGS 388C (#59640)
PHR 3.114B Tu/Th 9:30-11 (per outline below)
ENZYME CATALYSIS, MECHANISM, AND APPLICATIONS

<u>Date</u>	<u>Lecture Topics (Book Chapters)</u>
Dr. Whitman	
1/26/16	Hydrolysis Reactions (Ch 2)
1/28/16	Hydrolysis Reactions (Ch 2)
2/2/16	Inhibition of Enzymatic Reactions (Ch 2)
2/4/16	Decarboxylations (Ch 8)
2/9/16	Decarboxylations (Ch 8) and Isomerization Reactions (Ch 9)
2/11/16	Isomerization Reactions (Ch 9)
2/16/16	Isomerization Reactions (Racemases/Epimerases)(Ch 9)
2/18/16	Isomerization Reactions (Racemases/Epimerases) (Ch 9)
2/23/16	No Class
2/25/16	Examination #1 Dr. Whitman (9-11 PHR 2.208?)

Dr. Liu

3/1/16	Reduction and Oxidation (Ch. 3)
3/3/16	Flavin Dependent Enzymes (Ch. 4)
3/8/16	Flavin Dependent Enzymes (Ch. 4)
3/10/16	Heme-dependent Enzymes (Ch. 5)
3/22/16	Heme-dependent Enzymes (Ch. 5)
3/24/16	Dioxygenation (Ch. 5)
3/29/16	Dioxygenation (Ch. 5)
3/31/16	Rearrangements (Ch. 13)

4/5/16 **Examination #2 Dr. Liu (9-11 PHR 2.208?)**

Dr. Fast

4/7/16 Carboxylations (Ch 7)
4/12/16 Carboxylations (Ch 7)
4/14/16 Aldol and Claisen Reactions (Ch 11)
4/19/16 Aldol and Claisen Reactions (Ch 11)
4/21/16 One-Carbon Transfer Reactions (Ch 12)
4/26/16 No Class
4/28/16 One-Carbon Transfer Reactions (Ch 12)
5/3/16 Additions and Eliminations (Ch 10)
5/5/16 Additions and Eliminations (Ch 10)

Examination #3 (Dr. Fast's material) TBD

FACULTY

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EXAMS - There will be 3-100 point exams. The nature of the exam is entirely up to each faculty member. The final grade is based on the average of the three exams and the "+/- system" is used in the final grades (i.e., A, A-, B+, B, B-, etc).

Textbooks:

Richard B. Silverman, The Organic Chemistry of Enzyme-catalyzed Reactions (2000). The book is really, really outdated - many of the techniques are not used anymore! However, it's a reasonably good reference book and puts things in context (but don't buy it!!!).

Perry A. Frey and Adrian D. Hegeman, Enzymatic Reaction Mechanisms (2007). This book is more up to date, but might not be worth buying unless you want a general textbook.