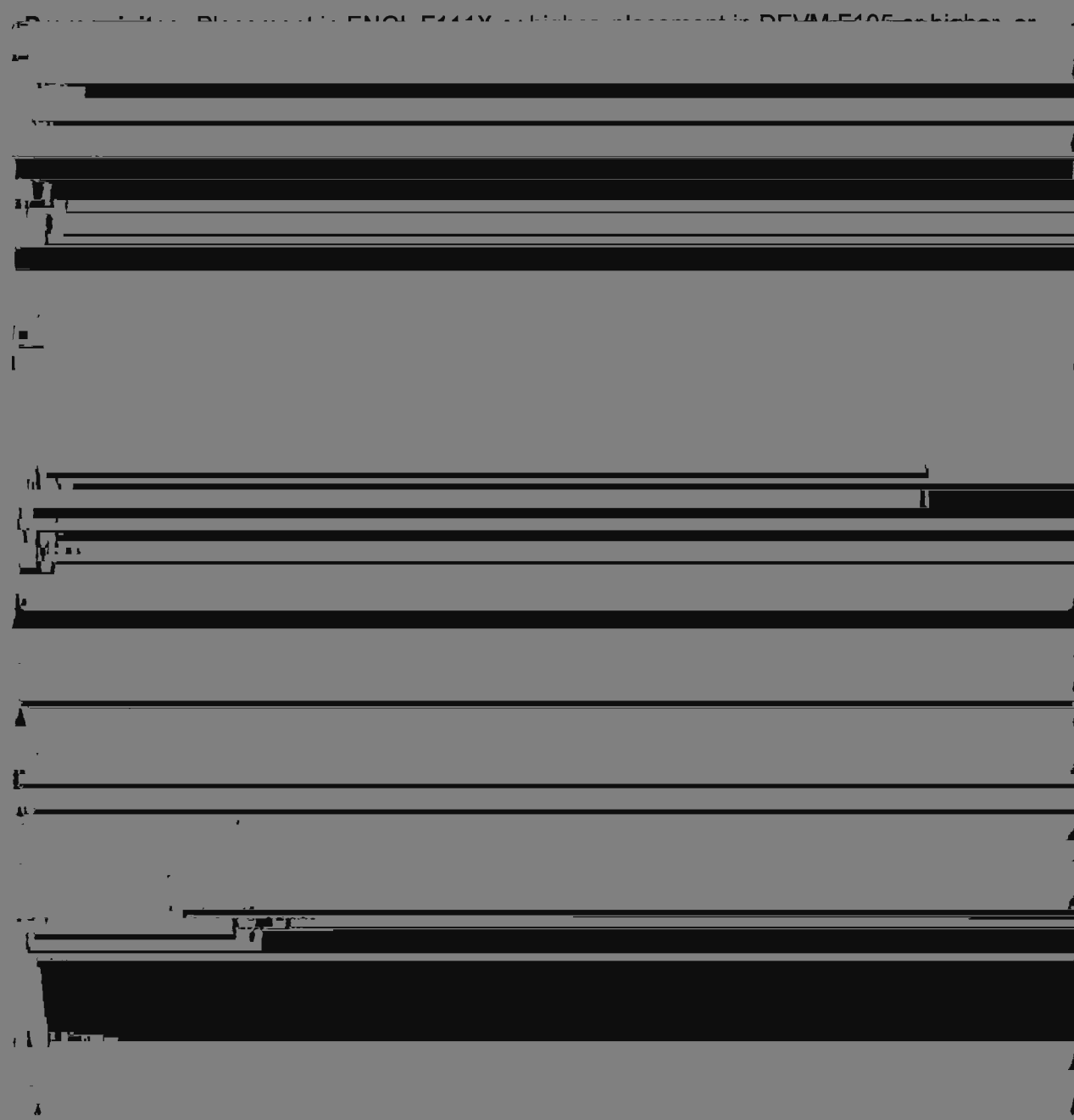


Chem 104x Organic and Biochemistry  
Spring Session, 2019  
*A Survey of Organic Chemistry and Biochemistry*

Instructor: Dr. Lawrence Duffy  
Office: 246 West Ridge Research Building  
(WRRB)  
Phone: 474-7525  
Email: [ll Duffy@unh.edu](mailto:ll Duffy@unh.edu)  
Office hours: 4:30 Monday, Reich 184

Lecture: 201 Reichardt Building 3:30pm  
Lab: Reichardt Bldg, TBA



**Specific Coverage:**

- I. Introduction to Organic Chemistry and Functional Groups
- II. Carbohydrates
- III. Classification and Functional Roles of Lipids
- IV. Structure and Function of Proteins
- V. Nucleic Acids, Gene Expression & Protein Synthesis
- VI. Catabolic Pathways and Energy Production
- VII. Food Security and Society
- VIII. Climate Change and Health

**Course Goals:** This is a general education course. *Structure is Function* is a fundamental theme in science course. Molecular shape determines function. Students who successfully complete this course will have an understanding of the structure and function of molecules that are the building blocks of living systems. Students will develop an appreciation for the

relationship between the three-dimensional chemical structure of the major classes of biological macromolecules (proteins, lipids, carbohydrates and nucleic acids) and their particular functional roles. Armed with an understanding of the biochemical principles of living systems, students will be more informed consumers and be better prepared to contemplate the

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**Laboratory Projects:** Any projects are intended to explain a core research concept to the class. Projects are intended to spur your creativity.

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**UAF Attendance Policy:**

You are expected to attend classes regularly; unexcused absences may result in a failing grade. You are responsible for conferring with your instructor concerning absences and the possibility

<http://www.uaf.edu/sssp/>

<http://www.>

[Redacted]

**Support Services:** Support can be obtained through the University of Alaska Library System

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**Course Plan and Calendar:**

Week	Chapter	Topic / Assignment
1	10	Syllabus
1	10	Organic Chemistry-Structural formulas/ isomers
1	10	Organic Chemistry- Functional groups
2	11/12/13	Organic Chemistry- Alkanes, Alkenes, Alkynes, Benzene
2/3	14/15	Alcohols, and stereoisomers
		<b>Exam 1</b>
4	16/18	Amines and Esters
5	20	Carbohydrates
6	21	Lipids
		<b>Exam 2</b>
7	22	Proteins – Structure & Function
8	23	Enzymes
		<b>Exam 3</b>
9	24	Chemical Communication
10	25	Nucleic Acids, Heredity
11	26	Gene Expression and Protein Synthesis
12	26	Mutations and carcinogenesis
		<b>Exam 4</b>
13	27	Metabolism
14	27	Biogenesis/ATP production

