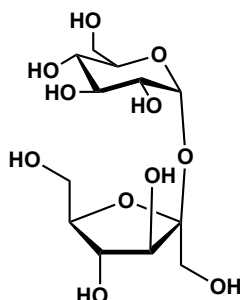

CHEMISTRY 5430

CARBOHYDRATE CHEMISTRY



Instructor – Dr. Christopher Callam

Credits – 3

Course Prerequisites – CH 2520 or 2620 or 2920

Time – Tuesdays and Thursdays 9:35 am - 10:55 am

Course Objective – The main course objective is for everyone to gain a better understanding of glycol-science. Students will develop a working knowledge of the synthesis, conformation, and biological importance of carbohydrates and oligosaccharides. This course is designed to help develop scientific problem solving skills and application of organic and biochemistry to new situations.

Course Topics –

Weeks 1-3: Structure and Conformation

Weeks 3-6: De-gradative Reactions in Acid and Base, Protecting Group Strategies and Functional Group Inter-conversions

Weeks 6-8: Reactions at the Anomeric Center and Pseudosugars

Weeks 8-10: Chemical Glycoside Synthesis

Week 11: Spectroscopy of Carbohydrates

Weeks 12-14: Biosynthesis of Carbohydrates and Enzymatic Synthesis Methods, Biochemical implications

Evaluation and Grading – 2 midterm exams, take-home quizzes, literature review and a synthesis project.