CHM4328/BPS4103/BCH4124
Carbohydrate Chemistry and Glycobiology
Winter 2018

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Office Hours: Tuesdays 2:00 pm – 4:00 pm or by appointment.

Lectures: Monday 10:00 - 11:30 AM, **SCR002**
Wednesday 8:30 - 10:00 AM, **SCR002**

Text Book: The course will be taught from the primary literature.

Evaluation:

Midterm Exam 1 (February 14) -30%
Midterm Exam 2 (March 28) – 20%
Final Exam (Scheduled by Registrar) – 50%

Outline:

1) An introduction to carbohydrate chemistry (anomeric effect, mutarotation, exo-anonmeric effect)
2) General strategies for synthesizing oligosaccharides
3) Making glycosidic bonds (problems, strategies etc.)
    i. Ion pairs and solvent
    ii. Substituents at C2
    iii. "Armed/Disarmed" concept
    iv. "Torsional Control" concept
    v. "Latent/Active" concept
    vi. Glycosyl halides
    vii. Trichloroimidate method
    viii. Thioglycosides
    ix. Glycals
    x. N-Pentenyl glycosides
    xi. Polymer supported synthesis
4) Protecting groups for carbohydrates
5) Oligosaccharide analogues (types, synthesis etc.)
6) Conformational issues associated with Oligosaccharide analogues
7) Total Synthesis of complex oligosaccharides and biological applications
8) Glycobiology – introductions and applications

** The above list is only a general outline and may be slightly modified during the course.