Chemical Biology

Schedule:

Week 1: Structure of biological macromolecules (proteins, carbohydrates, nucleic acids) and lipids.

Week 2: Structure of biological macromolecules (continued).

Week 3: Structure of biological macromolecules (continued).

Week 4: Chemical synthesis of biopolymers: peptide and protein synthesis.

Week 5: Chemical synthesis of biopolymers: nucleic acid synthesis; oligosaccharide synthesis.

Week 6: Chemical synthesis of biopolymers: lipid synthesis.

Week 7: Forces determining the structure of biological macromolecules.

Week 8: Methods of chemical biology: NMR, mass spectrometry, fluorescence.

Week 9: Methods of chemical biology: SPR, ITC.

Week 10: Conjugation and chemical modification of proteins and nucleic acids.

Week 11: Conjugation and chemical modification (continued).

Week 12: Bioorthogonal bioconjugations.

Week 13: Case studies.

Week 14: Case studies (continued).

Week 15: Case studies (continued).