A. Course Description

Credits: 3

Prerequisites: CHEM 301 Biochemistry
OR
CHEM 325 Biochemistry I: Biomolecule Structure and Function

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

MnTC Goals: None

This course is intended for Chemistry, Biochemistry, and Biology majors and counts as an elective for the Biochemistry, Chemistry, and Biology majors. Course lecture will focus on discussions of the biochemical aspects of neurodegenerative diseases, addiction, and poisons, such as the roles of metal ions and non-covalent interactions in protein folding and function. The course involves extensive reading and discussion of primary literature with a strong focus on data interpretation and experimental design.

B. Course Effective Dates: 05/02/2018 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Explain mechanisms of protein-misfolding and other neurological disorders.
2. Apply knowledge from introductory biochemistry coursework to follow biochemical disease pathways.
3. Review findings from high-level primary literature at forefront of current knowledge.
4. Discuss ethical concerns related to disease diagnosis, prevention, and treatment.
5. Compare different disease pathways and effects.
6. Discover and summarize results from primary literature.
7. Analyze experimentally collected biochemical data.
8. Debate validity and impact of scientific reports with contrasting viewpoints.
9. Prepare presentations based on in-depth understanding of biochemical literature.
10. Design an independent biochemical research proposal.

E. Learning Outcomes (MN Transfer Curriculum)

This contains no goal areas.

G. Special Information

Note: First day attendance required except by instructor permission.