

TxCETP Course Component:

## **Introduction of Valence and Covalent Bonds “Simple Bonds for Biology”**

### **Table of Contents**

I. Introduction	Page 1
II. Activities	Page 2
III. Assessment and Evaluation	Page 7
IV. Appendixes of Resources	Page 9

### **I. Introduction**

Overview of Course Component:

The Introduction of Valence and Covalent Bonds Course Component is designed to facilitate an understanding of the relationship between valence electrons of the elements most common in biology and their use in bonding. The activities included in the Course Component require students to: 1) develop an understanding of valence electrons, 2) apply this understanding to the bonding and molecules and 3) develop an understanding of linkage between reactive groups and biological monomers.

Objectives of Course Component:

The student is expected to develop an appreciation of the arrangement of subatomic particles in atoms, the ability to react with other atoms to form molecules, and these molecules to react with other molecules. During the activities associated with the Course Component, students will: clarify their understanding of atoms and molecules, predict the probable reactivity of these elements, and how molecules can be linked to form macromolecules.

Overall Time Frame for the Course Component:

Approximately two, thirty-minute time periods