# Chapter 39

#### Learning Objectives:

* Explain the physiological changes (respiratory, cardiovascular, and otherwise) that humans encounter at high altitudes.
* Understand the pathophysiology of pulmonary edema.
* Evaluate physiological data in a “clinical” setting to make a diagnosis.
* Understand the integration of the cardiovascular, respiratory, and nervous systems in regulating homeostatic variables such as blood gas levels, pH, etc.
* Recognize the multiple influences on blood pH.

**Directions:**

Distribute the “Into Thin Air” case study to class ~1 week prior to in-class case study time. Have students get into groups of 3-4 students or assign students into groups of 3-4 students. Have students discuss the case study amongst their group. Each group submits a paper with their respective group’s answers to each of the questions.

You can also distribute the case study part by part so the case study work can encompass several weeks (weeks dependent on how often class meets, etc.). Give students ~20-30 minutes per class to work on the respective part.

Or this case study can be distributed as the instructor sees fit.

Access this case study using this link - <http://sciencecases.lib.buffalo.edu/cs/collection/detail.asp?case_id=452&id=452>